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STRENGTHENING TUBERCULOSIS CONTROL IN UKRAINE PROJECT

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ANNUAL REPORT
OCTOBER 1, 2014 – SEPTEMBER 30, 2015

20 October 2015

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STRENGTHENING TUBERCULOSIS CONTROL IN UKRAINE

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CONTENTS

ACRONYMS

ACSM	Advocacy, communications, and social mobilization
ART	Anti-retroviral therapy
CoE	Center of excellence
CMAC	Central medical advisory committees
DOT	Directly observed treatment
DOTS	Directly observed treatment, short-course
DRS	Drug resistance survey
DST	Drug susceptibility testing
EQA	External quality assurance
GF	Global Fund to Fight AIDS, Tuberculosis, and Malaria
GoU	Government of Ukraine
GTBI	New Jersey Medical School Global Tuberculosis Institute
HIV/AIDS	Human immunodeficiency virus/acquired immune deficiency syndrome
HCW	Health care worker
IEC	Information, education, and communications materials
IC	Infection control
IPT	Isoniazid prevention treatment
M&E	Monitoring and evaluation
MDR-TB	Multidrug-resistant tuberculosis
MoH	Ministry of Health
NEGIC	National Expert Group on Infection Control
NGO	Nongovernmental organization
NRL	National Reference Laboratory
NTP	National Tuberculosis Program
OR	Operational research
PAL	Practical approach to lung health
PITC	Provider initiated testing and counselling
PHC	Primary health care
PLWH	People living with HIV
PPE	Personal protective equipment
R&R	Recording and reporting
SES	State Sanitary and Epidemiological Service
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
SOPs	Standard operating procedures
SPS	State Penitentiary Service
STbCU	Strengthening Tuberculosis Control in Ukraine
TB	Tuberculosis
TIRC	TB Training and Information Resource Center
TOT	Training of Trainers
SIAPS	Systems for Improved Access to Pharmaceuticals and Services
UCDC	Ukrainian Center for Socially Dangerous Diseases Control
URCS	Ukrainian Red Cross Society
USAID	United States Agency for International Development
UV	Ultraviolet
VTC	Voluntary testing and counseling
WHO	World Health Organization
XDR-TB	Extensively drug-resistant tuberculosis

EXECUTIVE SUMMARY

Project Overview

The five-year USAID Strengthening Tuberculosis (TB) Control in Ukraine (STbCU) project — implemented by Chemonics International in partnership with Project HOPE and the Global Tuberculosis Institute (GBTI) at Rutgers, the State University of New Jersey — seeks to improve the health status of Ukrainians by reducing the burden of TB through specific quality assurance and system strengthening measures for routine TB services, multidrug-resistant TB (MDR-TB), and TB/human immunodeficiency virus (HIV) co-infection. This report summarizes key accomplishments and progress by objective for Year 3 (October 1, 2014 – September 30, 2015).

Accomplishments Summary

Objective 1: Improve the quality and expand availability of the WHO-recommended DOTS-based TB services

- In December 31 2014, MOH of Ukraine endorsed "The Unified Clinical Protocol on TB/HIV Co-Infection." The Protocol incorporated all recommendations advocated by STbCU based on the WHO guidelines and the results of the "Gap Analysis of TB/HIV Co-Infection Services."
- STbCU, in agreement with the Ukrainian Center for Disease Control (UCDC), incorporated its educational activities on modern TB practices into postgraduate curricula of the National Medical Academy of Post-Graduate Education.
- Through mentoring visits 5,156 HCWs received on-the-job technical assistance related to TB diagnostics, treatment, and case management; TB IC practices; and the coordination of TB/HIV services.
- Local clinical protocols on TB and patient routes were developed in 72 PHC facilities of Lviv and Kirovohrad oblasts with support of the project. This improved the system of care provision to persons with presumptive signs of TB and TB patients at the primary care level.
- A number of laboratories with excellent EQA results scoring 95 and more on panel testing, increased from 88 percent in 2013 to 98 percent in 2014. Laboratories of all 6 regions improved their panel testing results.
- M&E specialists from USAID-supported regions received new knowledge on data analysis and interpretation that will help them to improve quality of routinely collected data, properly analyze the data and present information to be used by local program managers for informed decision making.
- 288 TB patients with a high risk of not following up with their TB treatment received TB drugs under direct observation by Red Cross nurses through a project grant.

Objective 2: Create a safer medical environment at the national level and in USAID-supported areas

- The National IC concept was developed, agreed with UCDC, and is now under consideration in the Public Health Department of the Ministry of Health of Ukraine.

- 60 NGO representatives received knowledge on IC and international approaches in providing care for TB patients during three trainings conducted by the project. Participants learned to identify steps that help to influence managerial decisions on TB made by the government institutions.
- 40 laboratory specialists improved knowledge and skill in TB IC through mentoring visits of IC Specialist and the National Expert Group on Infection Control (NEGIC).
- For the purpose of a unified approach in implementing Standards Operating Procedures, the project developed more than 100 standard operating procedures for TB bacteriological laboratories.

Objective 3: Build capacity to implement PMDT programs for multidrug-resistant/extensively drug-resistant TB at the national level and in USAID-supported areas

- Improved quality of TB and MDR-TB case diagnostics and treatment due to the project's participation in the MDR-Counseling Boards in Kherson, Zaporizhzhia, Kirovohrad, Kharkiv, and Odesa Oblasts.
- Improved cooperation between the civil sector and the State Penitentiary Service (SPS) in Odesa Oblast: developed a route for delivery of biomaterial (sputum) from the Penal Colony No. 51 to Oblast TB dispensary; SPS started to present cases of TB to central medical advisory committees (CMAC), shortened TB diagnosis and treatment commencement.
- Healthcare workers in Odesa Oblast TB Dispensary and Krivyi Rih TB Dispensary optimized laboratory diagnosis of MR-TB risks and improved their skills on use of GeneXpert in the TB diagnosis through project-provided trainings .
- 20 specialists of Level 2 laboratories, mostly from the two new regions, improved knowledge and skills on TB bacterial diagnostics at two trainings conducted by STbCU.
- For the first time in Ukraine, 22 out of 24 Level 2 laboratories (92%) completed EQA of bacteriological investigations via panel testing prepared and conducted by STbCU in close collaboration with the National Reference Laboratory (NRL) and UCDC; and

Objective 4: Improve access to TB/HIV co-infection services at the national level and in USAID-supported areas

- With STbCU support, Kherson, Kharkiv, Zaporizhzhia, Lviv, Kirovohrad regions, and Kyiv city administrations approved local action plans for capacity building and improving the quality of TB/HIV services to overcome the challenges of referral and integrated care system. Thirty-three raion health care facilities developed and endorsed similar plans in these regions.
- Due to the project's technical support, the section on TB/HIV co-infection was included in HIV/AIDS regional programs in Kharkiv, Kherson, Zaporizhzhia, and Kirovohrad oblasts. This allowed heads of regional authorities to consider the needs in funding these activities from local budgets and improve the organization and monitoring of their implementation.
- Quality of services in AIDS Centers in all project-supported regions improved as a result of introduction and maintenance of the Self-Assessment Monitoring Tool,

developed by the project based on PEPFAR recommendations on integrity and continuity of medical care.

- 219 healthcare facilities in Dnipropetrovsk, Zaporizhzhia, and Kharkiv regions worked out and endorsed Local protocols of TB/HIV case management, with patient's route.
- 48 TB specialists from Lviv oblast gained knowledge on cascade detection of HIV infection in TB patients and on improving TB/HIV case management through improved counseling for HIV testing.
- 1,858 prisoners of correctional facilities in Kharkiv oblast improved their motivation to undergo TB/HIV diagnosis and treatment as a results of interactive training sessions conducted by the NGO 'Parus.' Three hundred thirty-five prisoners received medical and social support in the form of individual counseling from social workers, and became motivated to continue their TB/HIV treatment after being released.
- In total, 898 PHC, HIV and TB specialists healthcare workers (65 from Lviv and 71 from Kirovograd oblasts) received knowledge on TB/HIV management and, afterwards, introduced TB screening questionnaires among PLHIV and sputum testing using GeneXpert among PLHIV with suspected TB into routine practice in all pilot regions.

I. ACCOMPLISHMENTS BY OBJECTIVE

Objective 1: Improve the quality and expand availability of the WHO-recommended DOTS-based TB services.

Activity 1.1: Build institutional capacity to improve the quality of DOTS-based programs.

Per Task 1.1.1 to strengthen the formal medical education system to include internationally recognized, modern approaches in TB control, in Y3 the project's previous activity in development of the national guidelines yielded approval of new evidence-based standards at the national level:

- In June 2015, the MoH approved *National Guidelines on Cough Management*, which have been developed under the project support, and published the document at the official website http://www.moz.gov.ua/ua/portal/dn_20150608_0327.html . On the project's insistence the key principles of practical approach to lung health (PAL) have been included into the guidelines.
- In June 2015, the Ministry of Health (MoH) approved the guidelines on *TB/HIV-associated miliary and extrapulmonary tuberculosis* which was developed under the project support. The guidelines are specially designed for undergraduate students. The project provided selection and translation of the principle up-to-date evidence-based sources, related to the topic, and original illustrations.

To strengthen the formal medical education system, institutionalize the project's educational activities and ensure their continuation, STbCU, in agreement with UCDC, incorporated its educational activities into the postgraduate curricula of the National Medical Academy of Post-Graduate Education. During the reporting period Academy staff hosted six USAID-sponsored, specialized short-term courses on TB control. A total of 116 PHC doctors from Kyiv city and the new project regions – Lviv and Kirovohrad oblasts received a streamlined, "single-step" update on modern TB practices. All trainees received state certificates for course completion, which will facilitate their future licensing.

In Year 3, STbCU also began integrating evidence-based education on TB infection control (IC) into curricula of the Odesa State Medical University (hereinafter – the Odesa Medical University). In January 2015 the project IC Specialist and Health Knowledge Management Specialist organized a seminar on TB infection control for 15 professors of the TB and Epidemiology departments of the university. The project's IC Specialist and specialists from the Healthcare Administration Department of the Odesa Medical University developed new guidelines on TB infection control for lecturers and students of the Odesa Medical University and started teaching students in modern international approaches to TB IC in September 2015, which would allow young professionals to get basic knowledge and practical skills on IC, and to use them in practice.

The project also initiated the revision of the Exemplary National Curriculum for sixth year medical students and proposed to include the up-to-date knowledge on TB case detection, case management, patient pathways, infection control, and new diagnostic techniques, including molecular ones. Also the project insisted on studying the key programmatic WHO TB-related documents, e.g. International Standards on TB Care and the guidelines on PAL, which the project translated and published online earlier http://stbcu.com.ua/2014/pal/,

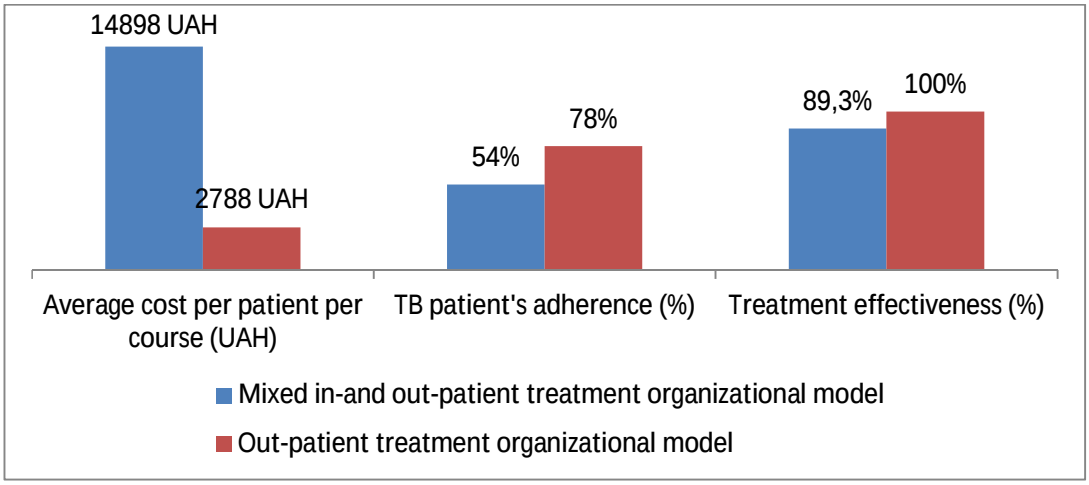
http://stbcu.com.ua/wp-content/uploads/2013/12/draft-International-standard_UKR.pdf . The National Central Curriculum Office has concurred with the project's updates, and currently the Exemplary National Curriculum undergoes the legislation.

In Year 3, STbCU continued working with the national TB partners to increase political support for improved DOTS-based programs. On December 31, 2014, the MoH of Ukraine endorsed "The Unified Clinical Protocol on TB/HIV Co-Infection." The Protocol incorporated all recommendations advocated by STbCU based on the WHO guidelines and the results of the "Gap Analysis of TB/HIV Co-Infection Services" (performed by the project in collaboration with GTBI), which advocated for splitting the functions of TB/HIV co-infection management between different levels of medical care, mandatory DOT for TB/HIV patients, molecular testing screening for PLWHA, primary health care involvement in TB/HIV case management, some program indicators related to ART, IPT, and CPT. For the first time, primary healthcare gained significance in TB/HIV co-infection management.

During the project Year 3 STbCU participated in a national level working group (WG) focused on health reforming issues. It's worth mentioning, that given the instability and considerable turnover in governmental bodies, there were almost no national working groups during the reporting period. In August 2015 STbCU joined the MOH's Interagency Task Force on ensuring a sustainable TB and HIV/AIDS response during Global Fund (GF) funding and after its completion. The main focus of this WG is development of strategy and action plan on how to sustain achievements of GF and other international projects in view of expected considerable reduction of international donors support starting from 2016-2017. The project offered support to the Task Force secretariat with its TB response. The MoH WG accepted the project's support.

To assist the national counterparts with ongoing health reform, STBCU provided technical assistance to governmental, national and local stakeholders with piloting different models of ambulatory care for TB and TB/HIV patients. At the beginning of Year 3, STbCU experts finalized a pilot TB cost-effectiveness study in Kriviy Rih aimed to inform strategic TB ambulatory care approaches in Dnipropertovsk Oblast as well as provide some understanding of effective TB case management organizational approaches. Despite the localized level of the study, it revealed tendencies and approaches that are in common in other USAID-supported regions. For example, the low cost of any kind of ambulatory care in comparison with in-patient care is combined with the fact that TB patient treatment adherence as well as treatment effectiveness in TB treatment ambulatory models is the same or even higher. See exhibit 1 below.

Exhibit 1. Cost effectiveness of TB treatment models in Kriviy Rih, 2014



The results of the study were placed to STBCU web-site and presented to partners at several meetings.

On March 26, STbCU'sSenior Technical Advisor presented the study results at Ukrainian World TB Day Conference which took place in TB Institute with participation of UCDC, WHO, PATH, USAID, Chief TB Doctors and representatives of health administrations, representatives of Medical Universities from all over Ukraine. Partners expressed their interest in further promotion of the idea ambulatory treatment. Representatives of UCDC also expressed their readiness to support the re-orientation TB care to ambulatory treatment. The results of the TB cost-effectiveness study were also presented at HIV/TB National Working Group meeting in September 2015.

This cost effectiveness study catalyzed policy changes in Kriviy Rih. City authority and health administrators initiated integration of TB services provision in primary health care level. H Based on the study results , STbCU experts together with UCDC, Kriviy Rih TB dispensary, Dnipropetrovsk Medical Academy and Dnipropetrovsk Oblast Health Administration developed the protocol of piloting several TB and TB/HIV ambulatory treatment models in Kriviy Rih. One of the pilot aims is to deeply involve PHC facilities in TB case management and to input in TB and HIV medical sector reform strategy development. All models will be assessed by their treatment effectiveness, patients' motivation, prevention of TB transmission, and other. The pilot in Kriviy Rih city will be implemented from July 1 through December 31, 2015. Data analysis will be completed by the middle of 2016 considering 6-8 months length of TB treatment. (See 1.2.3 for more details).

A nurse in a smear collection room at a raion hospital in Dnipropetrovsk oblast

Development of local protocols of DOT implementation in new project regions. During the reporting period, STbCU continued to support local TB and PHC specialist in new project regions with the development and implementation of local DOT protocols. During mentoring visits, the project's regional

coordinators visited 72 PHC facilities in Lviv and Kirovograd oblasts, revised existing local protocols and analyzed them together with local healthcare specialists, paying special attention to the patient route, infection control plans, availability of envisaged DOT services, and the local protocols' correspondence to the new national TB and TB/HIV Protocols.

For Task 1.1.2, On February 3, 2015, the Website Governance Board reviewed the application for the Strengthening TB Control in Ukraine website and has decided to approve the site for continued development. Since then the project is in the process of TIRC development and simultaneously getting the LPA's final approval. Meanwhile, together with Otakoi IT-Company and in close cooperation with the UCDC the project finalizes site programming. Due to the project's decision to involve the recipient (UCDC) into each step of the web site development (drafting technical assignment, developing site prototype and designing layout), the process takes longer than it has been expected, and the deadlines for TIRC development have been prolonged until the end of October 2015. The project is on track to meet this new deadline.

During the reporting year, 61 resource documents (reviews, training materials, manuals, surveys, forms and guidances) were housed on the STbCU website; they all will constitute initial content of the TIRC as soon as its own website has been launched.
Currently posted on the STbCU web site over the last quarter, resource documents include:

1. Action Plan and M&E indicators to improve TB/HIV services
2. TB/HIV Manual for Students and Physicians
3. Set of Posters on TB, developed by STbCU for medical universities
4. Action Plan on Capacity Building and Improvement of TB/HIV Co-infection Services
5. Indicators for Monitoring and Evaluation of Activities Implemented in Respond to TB/HIV co-infection
6. Best Practices: example local protocol on TB/HIV co-infection
7. Full Description and a Brief Presentation of Piloting TB Outpatient Care Model in Kryvyy Rih
8. Tuberculosis Infection Control video, produced by the International HIV/AIDS Alliance Ukraine
9. TB Treatment video, produced by the International HIV/AIDS Alliance Ukraine
10. Promoting Adherence to TB Treatment in Clients of Harm Reduction Programs, publication by the International HIV/AIDS Alliance Ukraine

In Year 3, the overall traffic to the project's website, which contains TIRC content, was over 2,100 unique users per month, with the highest rate of 3,100 unique visitors in April 2015.

For Task 1.1.3, to provide training, refresher training, supervision, and mentoring for health care providers, STbCU conducted a total of 41 trainings during the reporting year and trained 748 health specialists. Taking into consideration the importance of the outpatient treatment phase for effectiveness of post-discharge treatment, the project continued focusing on trainings on TB case management for PHC workers: nine such trainings for physicians and nurses were conducted, 191 PHC specialists received up-to-date knowledge on TB, MDR-TB and TB/HIV case management, laboratory tests for TB, and TB-IC.

In addition to the previously executed training program, such as trainings on TB case management in primary health care (PHC) facilities, TB detection and diagnostics by sputum microscopy, TB IC, and MDR-TB case management and others, in Year 3 the project successfully implemented a range of the new training programs. They include:

- Monitoring and evaluation of TB indicators using cohort analysis (training materials were reviewed and brought into line with the modern national regulatory framework and international standards) – 3 five-day trainings;
- Implementation of TB IC measures among representatives of non-governmental organizations – 3 five-day trainings;
- TOT for physicians and nurses on TB case management in primary health care facilities – 4 five-day trainings. In accordance with the cascade training strategy, 41 prepared trainers will be invited to conduct trainings for PHC physicians and nurses in USAID supported regions.

Seminar for the chief doctors of raion PHC facilities

In addition, the National Medical Academy of Post-Graduate Education and STbCU organized and conducted six thematic advanced courses "TB case management in primary health care facilities" for 116 physicians of Kirovohrad and Lviv oblast and Kyiv city (see 1.1.1). STbCU conducted the majority of these trainings at Dnipropetrovsk CoE and contributed to achievement of Objective 3, Task 3.1.1: Strengthen TB Center of Excellence.

All the above-mentioned trainings were conducted also in pursuance of Indicator 12, "Number of health care workers who successfully completed an in-service training program."

Exhibit 2. Number of Trained Specialists by Specialty and Work Venue from October 1, 2014-September 30, 2015

Number of Trained Specialists by Specialty and Work Venue											
Specialty	**Region**										**Total**
	Dnipropetrovsk	**Donetsk**	**Zaporizhzhia**	**Kirovohrad**	**Kyiv**	**Luhansk**	**Lviv**	**Odesa**	**Kharkiv**	**Kherson**	
PHC doctors and nurses	14		20	68	81		65	30	26	28	332
TB specialists (doctors and nurses)	26		21	30			73	17	23	22	212
Laboratory specialists	20		8	25	5		25	8	9	9	109
Specialists of SES	1		2	3	2	3	6	3	4	2	26
Professors of medical universities							3				3
Representatives of NGOs	8	3	6	2	12		6	14	3	6	60

Number of Trained Specialists by Specialty and Work Venue											
Med. statisticians	1		1						4		6
Total	**70**	**3**	**58**	**128**	**100**	**3**	**178**	**72**	**69**	**67**	**748**

Exhibit 2. Training Activities in USAID-Supported Regions by Type and Location from October 1, 2014 till September 30, 2015

Training Activities by Location			
Name of Training	**Place of Training**	**Number of Trainings**	**Number of Trainees**
TB case management in PHC facilities for physicians	Kyiv, P.L. Shupik National Medical Academy of Postgraduate Education	6	116
TB case management in PHC facilities for physicians	Dnipropetrovsk CoE	5	103
	Odesa	1	22
TB case management in PHC facilities for nurses	Dnipropetrovsk CoE	3	66
TB case management in PHC facilities (TOT)	Dnipropetrovsk CoE	4	41
TB detection and diagnostics by sputum smear microscopy. Quality assurance of tests	Dnipropetrovsk CoE	4	59
TB bacteriological diagnostics using solid media. Quality control of bacteriological tests	Kyiv	2	20
Monitoring and evaluation of TB diagnostics and treatment indictors using cohort analysis	Dnipropetrovsk CoE	3	61
MDR-TB case management	Dnipropetrovsk CoE	4	82
Counseling patients and testing for HIV-infection on the initiative of health care workers in TB service and effective redirection	Lviv	2	48
Implementation of TB IC measures among representatives of NGOs	Kyiv	3	60
Implementation of TB IC measures in TB laboratories for the laboratory specialists	Kharkiv	1	20
Implementation of TB IC measures in TB laboratories for the specialists of SES	Kyiv	1	20
Implementation of TB IC measures in medical facilities of Ukraine for teams of specialists	Kyiv	1	20
Use of Microsoft Excel in the work of laboratory specialists	Kyiv	1	10
Total		**41**	**748**

Per task 1.1.4, to increase TB laboratory network efficiency, in Year 3 the project continued ensuring the quality of TB laboratory diagnostics, specificallysputum smear microscopy external quality assurance (EQA) in USAID-supported regions, with a special focus on the two regions: Lviv and Kirovograd oblasts. The project provided technical assistance to oblast TB facilities in amending the regional orders on EQA of TB laboratory diagnostics. Orders were updated in Dnipropetrovsk, Zaporizhzhia, Odesa oblasts and the city of Kyiv. Changes were related to reorganizing/optimizing the TB laboratory network and aimed at improving the quality of laboratory tests and their accessibility for the patients. National experts in TB laboratory diagnostics the STbCU laboratory specialist helped to develop a new regional order on EQA of TB laboratory diagnostics in Lviv oblast, where such a document did not exist before. Kirovohrad oblast also plans laboratory network reorganization. In the coming year the project will actively assist the new oblast in this issue.

During the reporting period the project conducted regional conferences for laboratory and clinical specialists, health administrators, chief oblast laboratory diagnostics specialists, chief oblast TB specialists, local health authorities to discuss sputum smear microscopy EQA results in 2014 and to plan activities for 2015. Such conferences were held in all eight STbCU-supported regions, involving 358 specialists. The conference participants analyzed

the reasons in errors both in the EQA results, and in routine tests. The Project disseminated sets of panels for panel testing and the protocols with earlier EQA round results. The conference agenda for the two new regions was more extensive and included more organizational issues and questions related to regulations.

STBCU used the participation of oblast health administration and chief oblast specialists in the conferences to facilitate a number of managerial decisions to improve the quality of pre-laboratory stage, enhance collaboration between laboratory and clinical service, and, as a consequence, increase the effectiveness of TB laboratory diagnostics.
Analyses of the EQA results demonstrated improvement in EQA coverage as well as in quality of laboratories performance.

Thus in 2014, 199 out of 200 Level 1 laboratories were covered by EQA via panel testing (the only exception was the newly established Dnipropetrovsk laboratory), with 99.5% coverage. In 2013, the coverage was also as high as 99.7%. Blinded re-checking coverage improved significantly in 2014, with 88% of laboratories participating, while in 2013 only 42% of laboratories were covered with this EQA technique. See Exhibit 3 and 4.

TB laboratory at the Kryvyi Rih TB dispensary

It's worth mentioning the improvement in the quality of this EQA technique conducted by supervising laboratories: the procedures are strictly in line with the regulatory requirements, the quality of reporting EQA findings improved, feedback with the laboratories undergoing EQA has been established, and decisions are made in case of finding errors. In 2014, the rate of laboratories receiving EQA through monitoring visits increased to 89% of all laboratories while in 2013 this rate was only 68%. Thus, in Dnipropetrovsk oblast the coverage with this EQA technique grew from 44% in 2013 to 100% in 2014, while in Odesa oblast these rates were 24% and 64%, respectively.

Exhibit 3. EQA coverage (3 techniques) in 6 regions in 2013 and 2014.

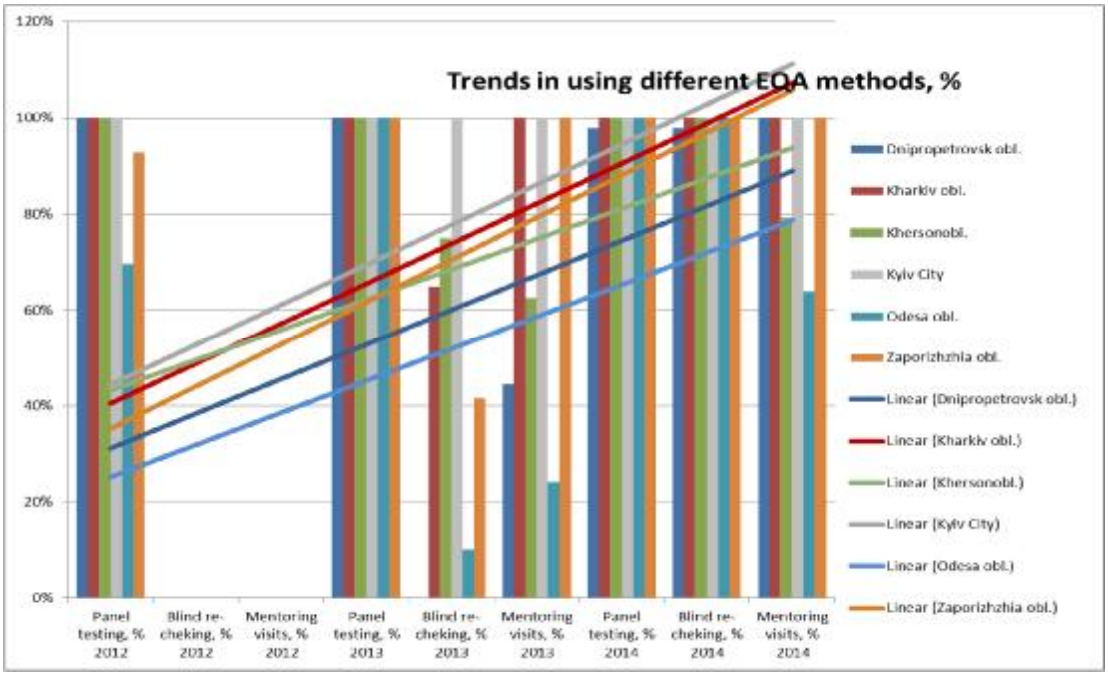
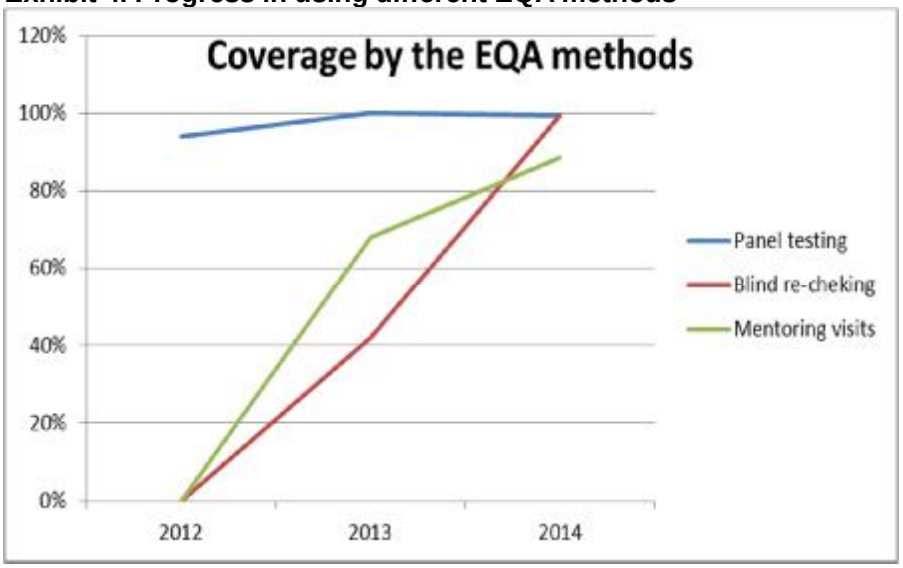


Exhibit 4. Progress in using different EQA methods

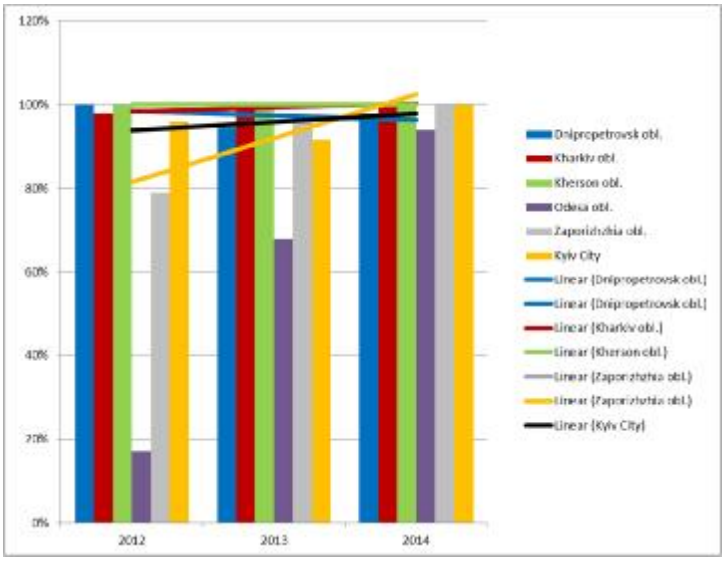


In the course of monitoring visits, along with assessment of the quality of laboratory performance and providing on-the-job mentoring assistance, the project focused on the quality of the pre-test stage. This was done in joint meetings with the facility management, clinical and laboratory specialists and included analyzing the factors of pre-test stage which have direct impact on the quality of TB laboratory tests: correctness of patient selection for TB detection, informing patients on sputum collection technique by clinicians (the project has developed posters on correct sputum collection techniques for the patients and distributed them to healthcare facilities), the quality and quantity of the biological material, sufficient to perform an investigation, and the correctness of completing recording and reporting forms. Joint working meetings, different training activities run by the Project, contributed to

improving the quality of pre-laboratory stage in many facilities of the USAID-supported regions.

In 2014 the number of laboratories with excellent EQA results scoring 95 and more on panel testing increased compared with 2012 and 2013 (see Exhibit 4). Laboratories of all 6 regions improved their panel testing results. The progress of Odesa oblast is worth a special notice as the rate of laboratories with correct panel testing results increased during the period between 2012 and 2014 from 17% to 68% and 94%, respectively. The laboratories of Zaporizhzhia oblast and the city of Kyiv have had quite high results already in 2013, while in 2014 all (100%) of laboratories in these regions reached excellent panel testing results. The laboratories of Kharkiv and Kherson oblasts continue demonstrative stable and maximally high results. The rate of laboratories with excellent panel testing results in Dnipropetrovsk oblast was 98% because one Level 1 laboratory (newly established) did not participate in the EQA. Now we are actively working with the regional specialists on including this laboratory in the EQA system.

Exhibit 5. Comparing panel testing results in 2012, 2013, 2014: (6 regions)

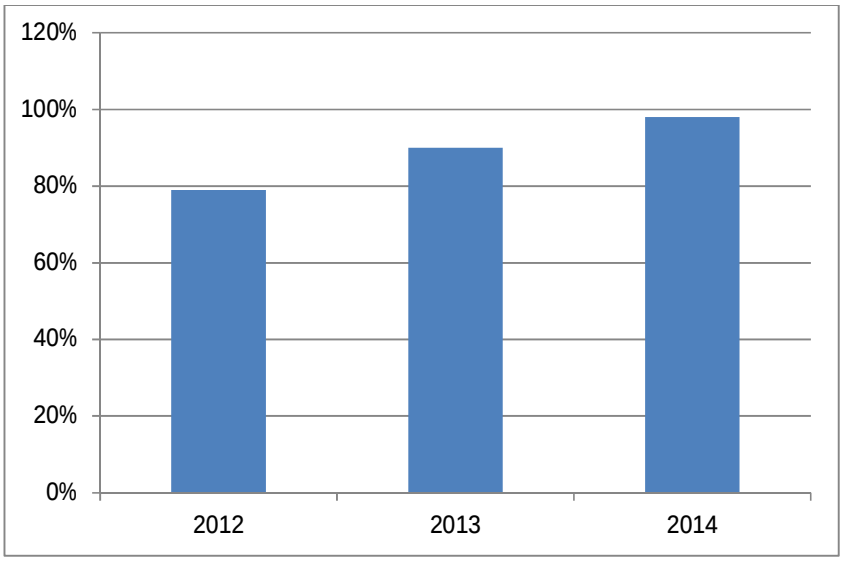


The project continued to its sputum smear microscopy EQA in the regions throughout2015. By September 30, 96% of laboratories, including STbCU's new regions of Lviv and Kirovohrad oblasts, completed EQA via panel testing. In Kharkiv, Kherson, Odesa oblasts, and the city of Kyiv, all 100% of laboratories completed panel testing EQA. Additionally, 68% of laboratories in eight regions were covered by blinded re-checking. In Kyiv EQA using this technique has been completed, while in Kharkiv oblast 93% of laboratories are covered.

Eighty two percent of laboratories in all STBCU-supported regions are covered with mentoring visits. In Kyiv this work has already been completed, in Kharkiv oblast 93% of laboratories are covered, and monitoring visits coverage in other regions varies from 63% in Odesa Oblast to 85% in Dnipropetrovsk Oblast. By the end of 2015, STBCU, together with the regions, will continue this work to achieve maximum results.

The new STbCU oblasts demonstrate positive trends in EQA: in Kirovohrad Oblast, panel testing coverage is97%, blinded re-checking coverage,86%, and monitoring visit coverage,93%). Lviv Oblast has somewhat lower rates: blinded re-checking coverage is 33%, mentoring visit coverage is 80%, while panel testing was performed in 98% of laboratories. Considering that the EQA system had not been well-established in Lviv Oblast, the project did much technical work to ensure the availability of standard testing panels to the oblast laboratories, ensure accompanying documents, train laboratory specialists, conduct on-the-job trainings, facilitate development of the regional order on EQA, conduct regional conference for laboratory specialist involving oblast decision-makers, to achieve such results in the reporting period.

Exhibit 6. Progress of EQA coverage (3 techniques), 9 months, 2015 (8 regions)



To improve the quality of laboratory diagnostics during the reporting period, the project closely collaborates with the local state institutions on development of respective regulations:

- Oblast level orders regulating quality control of TB laboratory diagnostics are available in all regions. They take into account the regional capacities or specifics for quality EQA, the possibility to conduct cluster EQA, and staffing capacities in the supervising laboratories.
- It is mandatory for a laboratory to participate in EQA through any technique, including sputum smear microscopy EQA (laboratory involvement in the EQA is one of the laboratory accreditation criteria, and it ensures the right of the healthcare facility to provide medical care).

STbCU work in the reported period ensured good EQA results for 2014 and progress in EQA in 2015, including the new regions. The project conducted two trainings in sputum smear microscopy for 30 participants. The majority of the participants were laboratory diagnostics specialists from the two new regions where no quality assurance system had existed before, and this activity was irregular and sporadic.

Nine laboratory diagnostics specialist from Dnipropetrovsk, Zaporizhzhia, and Kirovohrad oblast laboratories where problems were revealedwere offered on-the-job trainings. Three specialists were trained in a five-day on-the-job training, while six attended two- and three-day on-the-job trainings. The training duration varied because of different degree of laboratory technique complexity.

The Project performed selective visits to Level 1 laboratories with the purpose of supervising the quality of laboratory investigations and quality assurance procedures. The laboratories were selected together with the local laboratory coordinators, taking into account the quality of pre-laboratory stage, TB laboratory diagnostics, and earlier EQA results.

The Project visited 23 laboratories in Zaporizhzhia, Kherson, Lviv, and Kirovohrad oblasts.Summarizing the visit findings, the following conclusions can be made for Zaporizhzhia and Kherson oblasts:

- The quality of laboratory investigations improved
- Strict algorithms of quality assurance have been established
- Collaboration between laboratories and the clinical service improved (during the reporting period, STBCU was actively promoting motivation/adherence to TB in primary healthcare providers, including the involvement of all interested parties through annual conferences)

In general, the visits to Lviv and Kirovohrad oblast laboratories demonstrated weaker organization of TB laboratory diagnostics,although some laboratories in these oblasts, including those whose specialists have been trained by the Project in trainings and on-the-job training, are actively involved in this activity, and there were minor problems. The commitment of the facility administration and their interest in TB is a key factor in achieving positive changes.

Per Task 1.1.5, to strengthen TB-related monitoring and evaluation (M&E) systems and TB surveillance systems, the project worked in cooperation with UCDC. UCDC decided not to develop M&E Plan for the current National TB Program in 2015, instead, to strengthen the regional TB M&E capacity and to start working on M&E Plan for the National TB Program 2017 – 2021 in 2016. Thus the project focused mostly on building up M&E system at the regional level.

In response to the need in developing M&E specialists' skills in TB and TB/HIV data processing STBCU conducted a two-day seminar for regional M&E specialists in September 2015. Twenty M&E specialists fromm USAID-supported regions received new knowledge that will help them to improve the quality of routinely collected data, properly analyze, and interpret the data to be used by local program managers for informed decision making.

To assure international recommendations on TB M&E are applied, STbCU provided technical support to the UCDC and jointly organized two national seminars for M&E specialists in September 2015. The participants discussed M&E perspectives in the developing Ukrainian public health system, WHO TB strategy for 2016-2020, international M&E standards and regional experiences, and best practices of using TB data analysis for decision-making. Special attention was paid to the need to report accurate, timely and comparable data to demonstrate progress toward national and international goals for TB control.

In order to develop the capacity of the regional AIDS Center specialists in performance analyses, STbCU developed and introduced a self-assessment tool. The AIDS center specialists regularly used the tool to receive strategic information for monitoring their work and further improvement of the TB/HIV services system.

During the first nine months of Year 3, the project continued supporting maintenance of the TB/HIV M&E database by HIV specialists working in the regional AIDS Centers. Due to the fact that the TB/HIV database implemented by the project ensured collection of strategic information on TB/HIV, which is not available yet in any of the State Accounting and Reporting Forms, the Project started cooperation with UCDC on improvement of the national HIV/AIDS monitoring system. The project provided its recommendations on amendments to accounting and reporting forms on AIDS with the TB/HIV indicators. UCDC agreed with the recommendations. Thus, the M&E system will be upgraded in regard to TB/HIV and unified TB/HIV indicators will be implemented in all regions of Ukraine next year.

To improve evidence-based decision making for improvement of TB programs in USAID - supported regions, in July 2015 STbCU held a roundtable meeting, "USAID Technical Support Through the USAID STbCU Project: Improving TB Services and New Areas for Collaboration," for the heads of Region Health Departments, TB Dispensaries, AIDS Centers and chief family phycisians from four USAID-supported regions. At the meeting, Kherson and Odesa oblast specialists shared achievements and experience gained in their oblasts with colleagues from Lviv and Kirovohrad oblasts Odesa and Kherson region TB and HIV specialists presented examples of data analyses and shared experiences of quality data use for evidence-based decision making. The participants discussed the progress achieved in Odesa and Kherson oblasts in combating TB and TB/HIV thanks to quality improvement of TB and TB/HIV services and enhancement of TB, HIV and PHC collaboration as a result of of the Project's technical assistance. All participants found the format of the meeting very useful and practice oriented and emphasize the need to conduct similar activities for decisionmakers from other regions.

Mentoring visits to healthcare facilities continue to be at the heart of the project's M&E efforts. STbCU has two main objectives for mentoring visits: to help HCWs in primary healthcare settings to improve the quality of TB detection and treatment; and to assess the sustainability of knowledge of the healthcare staff trained by the project. During Year 3, project specialists and regional coordinators performed 285 mentoring visits to central raion inpatient facilities, central raion outpatient facilities, and PHC points in rural areas in USAID-supported oblasts. Through these visits, 5,156 HCWs received on-the-job technical assistance related to TB diagnostics, treatment, and case management; as well as TB IC practicesand the coordination of TB/HIV services. (See Exhibit 7 for more information on the project's mentoring visits.)

At the beginning of Year 3, the STbCU M&E specialist developed and introduced an easy-to-use monitoring tool to assess the progress of DOTS-based services at the PHC level. The instrument was designed to allow assessment of the availability of PHC workers trained on TB and TB/HIV, the quality of TB services at PHC facilities, the quality of sputum microscopy laboratory work, and the execution of counseling before HIV-testing of TB-suspected patients at PHC facilities. This monitoring tool presents clear, visual information that demonstrates the broader picture of project activities and results, measures results at the outcome level (TB-services delivery), and helps improve project management. Areas where project management has improved through the use of the tool include planning raions for

mentoring visits, identifying gaps in TB services, and planning for additional results-focused support to people in the visited regions.

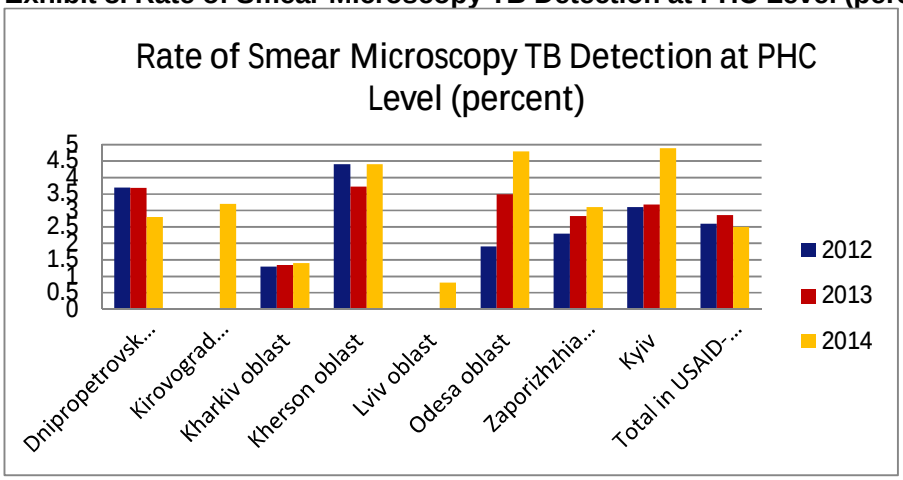
STbCU introduced into routine practice the formation of local multidisciplinary teams for mentoring visits which include specialists from the regional TB dispensary and AIDS Center. PHC facilities in all raions of Zaporizhzhia, Dnipropetrovsk, and Kharkiv regions received mentoring support from such teams. The visits resulted in 16 working meetings with Level 1, 2, and 3 healthcare specialists from the visited raions who came together to discuss observations made during the visits and to develop next steps to improvement of TB and TB-HIV case management. This is a new practice for the country, which was highly appreciated by UCDC and the regions.

Exhibit 7. Mentoring Visit Results

Region	Number of visits	Number of visited facilities			Number of specialists received on-the-job consultation	Topics covered in facilities				
		PHC facilities	TB facilities	HIV Facilities		TB detection	Laboratories performance	DOT	TB/HIV	TB IC
Dnipropetrovsk oblast	41	62	30	23	709	32	29	32	32	125
Kirovohrad oblast	19	31	10	11	383	15	16	11	11	186
Kharkiv oblast	45	39	40	16	502	39	39	36	40	162
Kherson oblast	35	53	26	15	942	52	39	50	59	55
Lviv oblast	39	33	26	19	1166	34	25	27	36	268
Odesa oblast	41	38	29	18	829	64	39	61	62	70
Zaporizhzhia oblast	43	50	28	7	500	40	42	33	38	120
Kyiv city	22	19	10	1	125	168	19	19	23	24
Total	**285**	**325**	**199**	**110**	**5156**	**444**	**248**	**269**	**301**	**1010**

The project's efforts led to improvement of smear case detection at PHC level in five project-supported regions, as shown in Exhibit 8.

Exhibit 8. Rate of Smear Microscopy TB Detection at PHC Level (percent)



Per Task 1.1.6 in Year 3 the Project developed a number of information, education, and communications (IEC) materials for healthcare professionals:

1. TB/HIV Manual for Students and Physicians — 550 copies
2. Posters on the Key Items of Updated Curricula on TB for pre- and post-graduate medical students — 100 sets of 14 posters
3. Booklet for TB Specialists with Algorithms of TB Case Management Using Infographics (charts and visuals) — 3,000 copies
4. National Clinical Protocol on TB/HIV co-infection — 2,000 copies

The project has published 100 sets of posters (14 posters in each set) on the key items of updated curriculas on TB will distribute them to pre- and post-graduate medical universities

Additionally, the project produced two complementary educational videos – one targeting health professionals ("Tuberculosis: Educational Film for Physicians and Family Doctors", 35 min) and one for general population and patients ("Tuberculosis: Know, be Aware, Have No Fear", 18 min) – to create synergy in delivering important TB messages. Both films communicate information about TB epidemic in Ukraine, pathways of TB transmission, WHO-recommended methods of diagnostics and treatment, essentials of infection control, and data to overcome stigma. The films present infographics and video-instructions, given in plain language for general population and with more details for HCW. Comprising real-life stories add strong emotional background to the films: doctors watch a case when neglect of routine case detection lead to delayed diagnosis and disease transmission to the patient's baby; while video for general public includes a number of stories on complete and successful recovery of TB. Recognizable people such as Alexander Kvitashvili, the Ukrainian Minister of Health, and Charles Lerman, the USAID Ukraine Health Office Director also shared their TB experience.

The films were widely broadcasted onnational and local TV channels, health facilities, medical universities, and project-organized events for healthcare providers at the national and regional level. Both videos were also posted to YouTube and attracted approximately 4,500 viewers. At the request of members of the Eastern Europe and Central Asia TB group on Facebook, Russian and English subtitles were added to the films, which also made the videos available for Russian and English-speaking audiences in the region. Targeting different audiences, each of the films applies relevant language and forcful arguments to change attitudes and behavior of its viewers. Both films were selected for the 2015 APHA Global Public Health Film Festival, which will take place during the 143rd APHA Annual Meeting and Expo (Oct. 31 - Nov. 4, 2015) in Chicago.

Olena Kheylo, STbCU TB expert presents the results of the Project-supported DRS piloting at the 45th World Union Conference on Lung Health in Barcelona, Spain

All updates to STbCU's informational materials were announced through the project's monthly newsletter. As of September, 30, 2015, the newsletter is disseminated to 954 healthcare providers, TB specialists, academics, and NGO representatives in Ukraine.

From October 28 to November 1, 2014, STbCU took part in the 45th World Union Conference on Lung Health in Barcelona, Spain (www.worldlunghealth.org). STbCU made an oral presentation on the project's "Patient's Diary", which encourages patients to self-observe and communicate with their health care providers resulting in better TB treatment adherence and outcomes. The second oral presentation showed how the piloting of TB Drug Resistance Survey (DRS) protocol can improve Ukraine's TB diagnostics system. The project also presented two posters: Streamlining TB/HIV case detection in Ukraine and the Long-term results of smear microscopy External Quality Assurance (EQA) in Ukraine's TB control system.

During the reporting year, the IC Specialist, along with the national and international experts, also administered the Facebook Page "Infection Control in Ukraine." The number of page visits grows every month, which is proved by the increased number of posts on Facebook. During the reporting year, the number of page views increased up to 240,000, and 134 posts were published.

Also, during the reporting year, 30 professional articles on infection control, biosafety, and public health were written and published on the web-sites: http://infection-control.com.ua/, http://sanepid.com.ua/, https://www.facebook.com/pages/Infection-Control-in-Ukraine-Інфекційний-контроль-в-Україні, http://stbcu.com.ua

The topic of infection control presented on the internet would allow disseminating the information on quality implementation of infection control not only among healthcare workers, but also among the general population. This would help inform public opinion and influence decision making processes at the local, national, and international levels.

In addition, the IC Specialist provided expert advice by telephone. During the reporting year, there were provided about 180 consultations. Most of the questions were as follows:

1. How to use a UV radiometer?
2. When will a UV radiation training take place?
3. What type of UV lamps need to be purchased for a more effective air disinfection?
4. Conducting a quality installation of mechanical ventilation system in bacteriological laboratories of 2nd and 3rd levels of healthcare.
5. What kind of respirators need to be purchased?
6. Where do we get a fit test from?
7. How to organize an effective use of chemical disinfectants?

It should be noted that the project IC Specialist redirected most of these questions to experts from the NGO "Infection Control in Ukraine." Telephone consultations on TB infection control are very helpful for professionals in remote areas who are not able to communicate quickly, even with regional centers.

Per Task 1.1.7, to increase laboratory capacity for IC, STbCU IC specialist, experts from the NGO "Infection Control in Ukraine" (NEGIC), and national experts on laboratory diagnosis reviewed materials on laboratory infection control, which were approved by the UCDC. For the purpose of a unified approach for implementing Standard Operating Procedures, there have been developed and added to the training materials more than 100 SOPs making work in bacteriological laboratories easier and safer. We can say that today after undergoing trainings and attending seminars conducted with the support from the project, most of bacteriological laboratories of TB facilities developed and approved their SOPs, which allowed them getting closer to international approaches to TB infection control.

Using on the updated training materials , STbCU trained 20 specialists form Levels 2 and 3 laboratories form USAID-supported regions in February 2015.

Activity 1.2: Expand access to TB service delivery to improve prevention, diagnosis, and treatment of TB.

Per Task 1.2.1, grant issuance and monitoring of grant program implementation, STbCU has been working on finalization of the agreements.

Through a two-stage selection process, the Project's Technical Expert Committee (which included a representative from UCDC) selected seven executors for ACSM activities out of 42 Concept Papers. These are the following applications:

	Title of applicant	**Project title**	**Project goal**
1	INGO International HIV AIDS and TB Institute, Kyiv	Shoulder to Shoulder": TB patients' psycho-social support for enhanced treatment adherence	The overall project goals is: after the 1st year of the project implementation - to decrease the default rate at outpatient stage of TB treatment from the current 14% to at least 6-8% . Specific objectives aimed at achieving the project's fundamental goal are as follows: 1. To enhance quality of TB services and linkages between TB and other treatment and social services;

			2. To strengthen capacities of the service providers (healthcare and social workers) to implement a patient-centered psychological and social support services for TB patients in the two pilot sites; 3. To improve the quality of medical, psychological and social care available for TB patients during the outpatient stage of treatment.
2	NGO "Perehrestya", Dnipropetrovsk	Creating an Internet portal zhivy.com.ua to improve the morale of people with TB and their families.	Increase motivation of individuals with tuberculosis and their families through the publication of stories about people who have overcome the disease, providing comprehensive patient information and consulting support, creating a single communications network.
3	NGO Legal Assistance Public Service, Rubizhne/Severodonetsk (Luhansk oblast)	Informational and educational campaign "Stop TB together"	Strengthening TB control in Luhansk region and reducing the stigma of TB patients through educational campaigns to mobilize residents of Lugansk oblast to combat TB epidemic and discrimination of patients.
4	LHSI, Kyiv	What you should know about TB	Raise awareness among internally displaced persons living in the city of Kyiv on tuberculosis and location of health facilities for the diagnosis and treatment of TB.
5	Charitable foundation "Time for Youth", Yuzhnensk (Odesa oblast):	"Community overcomes illness" - joint efforts of the community, government and business to address TB	- Create a comprehensive program involving representatives of various community groups (public, authorities, business) for TB control at the city level and develop effective response to address the spread of TB in the city. - Development of recommendations to the City TB program, taking into account budget changes. - Motivating managers and business owners for launching more effective social policies in enterprises related to TB (job security, social support patient and / or family). - Increase community awareness on TB prevention and treatment.
6	League of social workers of Ukraine, Lviv	Improving the affordability of TB treatment services by enhancing community capacity and use of ACSM strategy	Strengthening communities, consolidation of efforts of governmental, non-governmental and religious organizations as partners of intersectoral cooperation in the field of public health to raise additional funds and other resources for working in this direction.
7	Public Movement	Advocacy of improved medical care for Roma	Promote creation of conditions for bringing quality healthcare to the Roma people and

	"The Ukrainians against TB" Foundation", Kyiv	people to combat TB in this environment and motivate this risk group to seek diagnosis and treatment of TB (as in Odesa region)	effective TB control among the Roma population through advocacy at the national and local authorities level to address the problems of Roma ethnic group in Odesa region that affect the availability of health care services to Roma people and increase the risk of TB. Introduction of outpatient treatment models for Roma with simultaneous motivation of this risk group to get diagnosed in time and complete a full course of TB treatment.

All the participants were informed about the selection process results. The first winner, **NGO Perekhrestya** is implementing the second milestone of its grant aimed at increasing motivation of individuals with tuberculosis and their families (signed on July 20, 2015). The second grant, with **NGO Chas Molodi, Odesa**, has been also approved by USAID, but postponed on the grantee's request till the local elections are completed.

Two other grant agreements, **"Shoulder to Shoulder": TB patients' psycho-social support for enhanced treatment (implementer: IHATI)** and **"Advocacy of improved medical care for Roma people" ("The Ukrainians against TB")** are at USAID review.

STbCU continues providing consultations with the rest four of the selected NGOs on finalizing their grant agreements. The full package of applications and draft contracts will be delivered to USAID for the final clearance.

GRANT-05 with IHATI, signed July 24, 2015. First milestone submitted in time. Next milestone to be submitted October 30, 2015.

Ukrainian Red Cross Society

Per Task 1.2.2. Provide support to the Ukrainian Red Cross Society (RC). URCS continue the second year of grant implementation. Two new regions, Lvivska oblast and Kirovograd oblasts, were included in the informational campaign among TB patients.

During the reporting period, 588 TB patients received DOTSpatronage visits from URCS nurses. Diaries were distributed to 1,261 patients, and 5,243 counselling services were provided for TB patients and their families. The URSC also distributed TB informational materials to 10,640 TB patients discharged from TB hospitals. In Kherson oblast, 1,328 food packages were provided for TB patients as a social incentive program.

The effectiveness of the program was analyzed using cohort analysis among all URSC-supported patients registered for treatment by TB service in 2014 (see Exhibit 9 below).

Exhibit 9. Treatment effectiveness in URSC-supported TB patients registered for treatment in 2014.

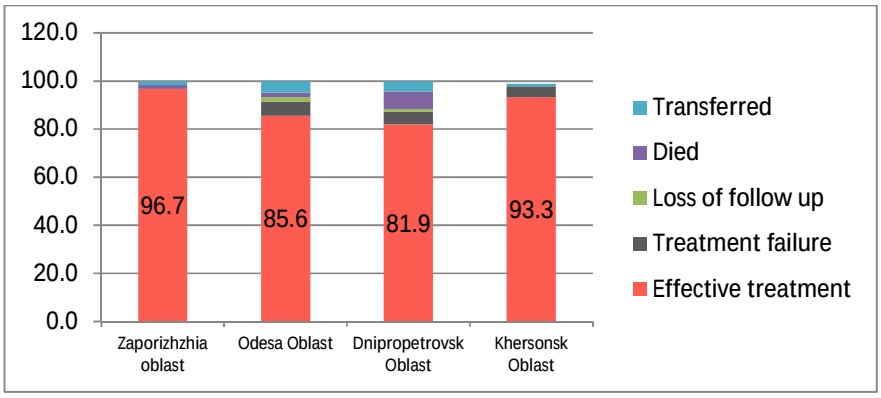
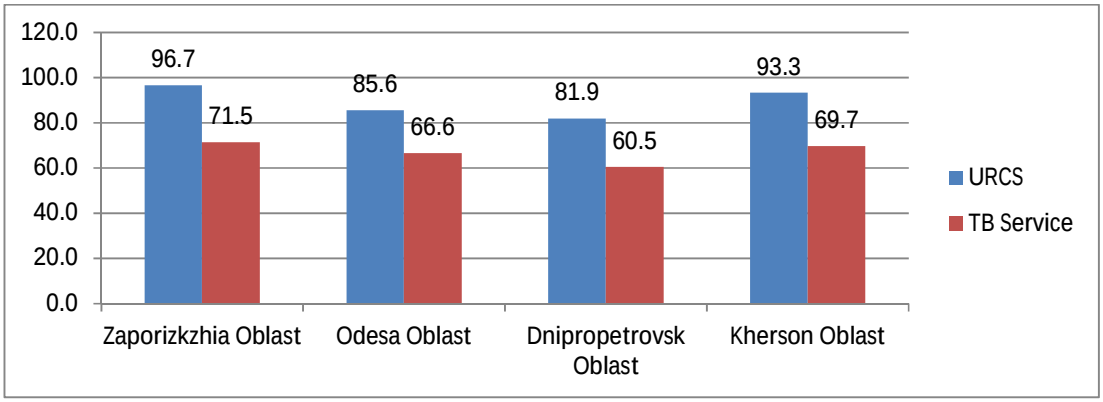


Exhibit 10. Treatment effectiveness (%) in all new TB susceptible cases treated by TB services in comparison with URSC-supported TB patients in the same regions in 2014.



Exhibits 1 and 2 shows relatively high treatment effectiveness among URCS-supported TB patients regardless of the fact that the majority of them are marginalized. These graphs also show that social support (mostly good communication with people rather than food packages) is an effective motivational factor.

Per Task 1.2.3, to strengthen TB services provision at the PHC level, the project continued to support implementation of evidence-based practices in TB management at the PHC level. STbCU's Senior Technical Advisor together the project'sTB Specialist and TB/HIV Specialist facilitated piloting the outpatient model of care in Kryvyi Rih starting from protocol development to data analysis.

The aim of the piloting is to identify better waysto provide patients with access to quality medical care including priority treatment in PHC facilities, implement of TB IC requirements, and improve patients' motivation. One of the pilot aims is also to provide input in the strategy development of TB and HIV medical sector reform.

The Pilot protocol includes:

- Patient pathway algorithms which consider patients' clinical conditions and level of infectiousness

- TB IC measures
- Clear schemes of TB contact investigation
- List of indicators
- Schemes of collaboration
- Approaches to patient motivation

The full protocol is placed on STBCU's website. The sixth month pilot started on July 1, 2014 and will cover Ternovsky district of Kriviy Rih City. The pilot is focusing on five kinds of TB treatment ambulatory models, namely: DOT services in TB facilities, DOT services and PHC facilities, DOT services in day-stay departments, DOT patronage services provided by TB medical staff, and patronage services provided by NGOs. All models will be assessed by their treatment effectiveness, patient motivation, and prevention of TB transmission.

A medical doctor visiting a TB patient at home model of ambulatory care

Three workshops for TB, PHC, and HIV specialists were conducted prior to piloting, focusing on: improvement of TB and HIV collaboration in Krivyi Rih (May 20th), piloting of TB treatment ambulatory model in Krivyi Rih (May 22nd), and ART and TB treatment patient adherence (July 10th). As a result, TB and PHC doctors and nurses expressed their readiness to be fully involved in provision of ambulatory-based TB services. They also gained a clear understanding on who is doing what to provide quality care for TB patients and TB contacts. On September 25, 2015 a mid-term meeting was conducted after three months of piloting to identify achievements and challenges, and to provide necessary corrections. Analysis of preliminary data shows that the first steps of piloting are rather successful. For example, in the pilot raion of Krivyi Rih the number of referrals of new TB patients from TB service to primary health care sites increased up to 60% in comparison with 10% of referrals in control group of TB patients.

Exhibit 11. The beginning of treatment of new TB patient in pilot rayon of Krivyi Rih prior to and during piloting (preliminary data)

The graph shows that during the pilot treatment in TB services considerably reduced and more patients started receiving TB services at primary health care level (PHC). Additionally,

the number of in-patient treatments reduced, indicating that close cooperation with PHC is one of the best options for developing cost-effective ambulatory treatment modules.

Per Task 1.2.4, the project developed a number of publications for the mostat-risk populations and the general public:

1. Poster and form with instructions for patients undergoing sputum collection procedures	1,000 copies of posters and 5,000 copies of forms
2. Booklet on TB prevention with Izonizid	5,000 copies
3. Patient's Diary form	4,000 copies
4. TB 09 discharge form with a tear off instruction sheet for patients	10,000 copies
5. Booklets for internally displaced people (IDP) "Attention! Now it's time to care about your health!", published within the Red Cross grant	5,000 copies
6. ARV drugs form to create adherence to TB and ARV drugs among those PLHIV, who are involved in piloting outpatient model of care in Kryvyi Rih	1,000 copies
7. Self-appraisal form on ARV and TB treatment adherence	1,200 copies
8. Booklet for family members of patients with TB (contact tracing)	the booklet is still in the process of publishing

In Year 3, approximately 250 media articles were published the project's work (please see the media-clipping attached).

Additionally, STbCU prepared 13 success stories during the reporting period (please see the Annex C).

Activity 1.3: Conduct operational research to improve the National TB Program's (NTP) performance.

To conduct operational research to improve the national TB program's performance, STbCU has launched three of four anticipated operational research grants:

- "Delays in initiation of TB treatment", the grantee: NGO Center "Social Indicators";
- "Impact of Different Models of Outpatient TB Treatment on Treatment Outcomes in the city of Kyiv" the grantee: NGO Center "Social Indicators";
- "Let the Fresh Air In" (Impact of patient education on treatment outcomes), the grantee: International Non-Governmental Organization "International HIV/AIDS and TB Institute"

Currently the studies' protocol development, selection and training of junior researchers (students) are in progress. Additionally, the grant agreement on the study "Causes of ineffective TB treatment and lack of follow-up " (Grantee: NGO Center "Social Indicators") is currently being finalized (For more details see 1.3.1).

Exhibit 12. Objective 1 Accomplishments

LOP Expected Results	Accomplishments to Date
Adoption of international standards for TB control and facilitation of implementation at the national level and in all TB technical areas.	• In December 2014, the MOH of Ukraine endorsed "The Unified Clinical Protocol on TB/HIV Co-Infection." The Protocol incorporated all recommendations advocated by STbCU based on the WHO guidelines and the results of the "Gap Analysis of TB/HIV Co-Infection Services. • In June 2015, the MoH approved *National Guidelines on Cough Management*, which have been developed under the project support. • In June 2015, the MoH approved the guidelines on *TB/HIV-associated miliary and extra-pulmonary tuberculosis* which was developed under the project support • STbCU, in agreement with UCDC, incorporated its educational activities on modern TB practices into postgraduate curricula of the National Medical Academy of Post-Graduate Education.116 PHC doctors received state certificates for course completion, which will facilitate their future licensing. • Odesa Medical University started teaching students in modern international approaches to TB IC in September 2015, which would allow young professionals to get basic knowledge and practical skills on IC, and to use them in practice. • At the beginning of Year 3, STbCU experts finalized the illustrative TB cost-effectiveness study in Kriviy Rih aimed to strategize TB ambulatory care approaches in Dnipropetrovsk region as well as provide some understanding on effective TB case management organizational approaches. The study became the basis for piloting models of outpatient treatment in Kryvyi Rih.
Development of the NTP's cascade in-service training system using international standards within the civilian and penitentiary sector, including development of a national standardized and accredited training curriculum.	• STbCU conducted 41 trainings during the reporting period, training748 health specialists. • On February 3, 2015, the Website Governance Board reviewed the application for the Strengthening TB Control in Ukraine website and has decided to approve the site for continued development. Since then the project is in the process of TIRC development and simultaneously getting the LPA's final approval.. 61 resource documents (reviews, training materials, manuals, surveys, forms and guidanc) were housed on the STbCU website; they all will serve as initial content as soon as the TIRC web site is launched.
Implementation of NTP's supervisory and mentoring system to consistently improve the on-the-job quality of care provided by HCWs.	• The project specialists and regional coordinators performed 285 mentoring visits to central raion inpatient facilities, central raion outpatient facilities, and PHC points in rural areas in the USAID-supported oblasts. Through these visits, 5,156 HCWs received on-the-job technical assistance related to TB diagnostics, treatment, and case management; TB IC practices; and the coordination of TB/HIV services.

LOP Expected Results	Accomplishments to Date
Increased involvement of the PHC system in the provision of TB prevention and treatment.	• 191 PHC specialists received up-to-date knowledge on TB, MDR-TB, and TB/HIV case management, laboratory tests for TB, and TB IC. • Local clinical protocols on TB and patient routes were developed in 72 PHC facilities of Lviv and Kirovohrad oblasts with support of the project. This improved the system of care provision to persons with signs presumptive of TB and TB patients at primary level of care.
Quality assurance system in laboratories implemented and lab network for TB diagnosis at the national level and in USAID-supported areas improved.	• A new regional order on EQA of TB laboratory diagnostics was developed in Lviv oblast, and updated in Dnipropetrovsk, Zaporizhzhia, Odesa oblasts and the city of Kyiv. • In 2014, over 176 laboratories out of 200 laboratories in 6 oblasts were covered by all three methods of EQA: 99.5 percent covered via panel testing, 88 percent of laboratories participated in blinded re-checking, and 89 percent received EQA through monitoring visits. • The number of laboratories with excellent EQA results scoring 95 and more on panel testing, increased from 88 percent in 2013 to 98 percent in 2014. Laboratories of all 6 regions improved their panel testing results. • By September 30, 96 percent of laboratories, including new STbCU regions, completed EQA via panel testing
Strengthened M&E systems and TB surveillance at the national level and in USAID-supported areas; improved quality, use, and analysis of TB data by means of tools for TB and MDR-TB M&E.	• M&E specialists form USAID-supported regions received new knowledge on data analysis and interpretation that will help them to improve quality of routinely collected data, properly analyze the data and present information to be used by local program managers for informed decision making. • AIDS Center specialists in project-supported regions started using the self-assessment tool developed and introduced by the project to receive strategic information for monitoring their work and further improvement of the TB/HIV services system. • The project provided its recommendations on amendments to accounting and reporting forms on AIDS with the TB/HIV indicators. UCDC agreed with the recommendations. Thus, the M&E system will be upgraded in regard to TB/HIV, and unified TB/HIV indicators will be implemented in all regions of Ukraine next year.
Improved knowledge among most at-risk populations and the general community on TB.	• 288 TB patients with a high risk of not following up with their TB treatment received TB drugs under direct observation by Red Cross nurses through a project grant. • Patient Diaries were distributed to 1,261 patients, 5,243 counselling services were provided for TB patients and their families. • URSC distributed TB informational materials to 10,640 TB patients discharged from TB hospitals.

Objective 2: Create a safer medical environment at the national level and in USAID-supported areas.

During the reporting period significant changes in the system of national infection control (IC) took place. Within the framework of ongoing health system reform, the Sanitary and Epidemiology Service has undergone restructuring. It is expected that functions of SES will take over the Ukrainian Center of Public Health, which has been established in theory but not yet in practice. Currently, UCDC is in charge of developing policy and regulatory frameworks that will define the functions of the new national body for infection control. STbCU closely collaborated with UCDC during the reporting year, providing technical support for developing much-needed strategic documents.

Activity 2.1: Improve infection control

Per Task 2.1.1: improving IC policies, guidelines and operating procedures, strengthening monitoring and supervision, and provision of trainings of health care providers, in October 2014 the project COP and IC Specialist met with the management of UCDC and representatives of the NGO "Infection Control in Ukraine" regarding TB IC implementation in Ukraine and agreed that TB infection control implementation in Ukraine is impossible without the national infection control concept, including tuberculosis. The UCDC requested the project to develop a national IC strategy for further implementation.

In the second quarter of the project year, the project IC Specialist, together with experts from the NGO "Infection Control in Ukraine" developed the national IC concept and submitted it to UCDC for discussion and approval. In the third quarter, the UCDC finalized the national IC concept and submitted it to the Ministry of Health of Ukraine for further approval. Today, the national IC concept is under consideration in the Public Health Department of the Ministry of Health of Ukraine. The adoption of the national IC concept will allow applying international approaches to infection control at the national level aiming at preventing incidence of all infectious diseases.

During the reporting period, the project IC Specialist, together with experts from the NGO "Infection Control in Ukraine" successively worked on developing IC regulatory documents. The following documents were prepared:

The National Standard of TB Infection Control (TB IC Standard) was updated and submitted to UCDC. Today it undergoes public discussion. The new version of the TB IC Standard will help to define clearly basic requirements for the TB infection control implementation.

The Guidelines on UV-Radiation were developed and agreed upon with UCDC. The Guidelines on UV-Radiation will become the first normative documents in Ukraine regulating the work of UV-radiation. These guidelines are now awaiting approval of the Ministry of Health.

Recommendations on IC to be included into the new National TB Program for 2017-2021 were developed and submitted to UCDC for further processing.

- Guidance on TB Infection Control was revised and updated according to international standards. It is planned to approve the Guidance at the Academic Board of the Lviv National Medical University or the Odesa State Medical University, and then

disseminate it among project stakeholders.In September 2015, the MoH adopted the State Sanitary and Epidemic Rules and Norms for Handling of Medical Waste: http://zakon4.rada.gov.ua/laws/show/z0959-15. This is the first regulatory document in Ukraine that regulates the handling of medical waste and includes all recommendations provided by the project.

During the reporting year, the IC Specialist and M&E Specialist, together with experts from the NGO "Infection Control in Ukraine" developed a self-assessment monitoring and evaluation tool for TB IC for internal facility audit of proper IC practices. The tool was piloted at the Lviv TB dispensary. Use of the tool allowed the facility to better plan their TB IC activities and to make managerial decisions on priority IC interventions.

Discussion on IC at the Lviv TB Dispensary

To promote internal assessment of TB IC measures by healthcare facilities, the project's TB IC specialist and STbCU regional coordinators provided mentoring assistance to healthcare facilities to improve their IC activities. All TB facilities of Odesa and Dnipropetrovsk oblast received mentoring assistance. This allowed the healthcare facilities to better plan the implementation of TB IC activities that reduce occupational TB morbidity which, in its turn, would reduce the TB incidence among healthcare workers and TB spreading within hospitals.

The rate of TB occupational morbidity in TB facilities decreased two-fold in Odesa oblast in 2014. Since the beginning of the project (2012), there has been a five-time reduction in TB occupational morbidity in TB facilities, while in other healthcare facilities TB occupational morbidity remained at the same level. This suggests that implementing international TB IC requirements has a strong impact on TB occupational morbidity reduction.

Demonstration of IC control: measuring of ventilation rate at TB dispensary

Over the past year, with the technical support from the project, the NGO "Infection Control in Ukraine" conducted three trainings on TB infection control for 60 NGO representatives. Additionally, during each mentoring visit the National Expert Group on IC had meetings with NGO representatives regarding the need to apply international approaches in providing care for TB patients. Thus, there were identified unified steps that help to influence decisions made by the government institutions. Experience gained during implementation this activity allowed the project to developed guidelines titled, "Important Steps for Making Managerial Decisions on TB Infection Control for Non-Governmental Organizations." The document will be finalized next year.

Per Task 2.1.2, elaborating a plan for administrative, environmental, and personal infection control measures to prevent and reduce cases of occupational TB and nosocomial transmission, the project continued to support TB facilities to develop and implement TB IC plans.

During each mentoring visit, the project IC Specialist, together with NEGIC and the project Regional Coordinators, pay attention to the quality of IC plans and implementation of standard operating procedures in laboratories of TB services. During the reporting year, IC Specialist made 30 mentoring visits, visited 12 laboratories of healthcare facilities, and provided training on IC for 40 laboratory specialists at TB facilities. Most laboratories have established and implemented their standard operating procedures (SOP) that significantly improve their work quality.

The STbCU IC specialist will observe the implementation of these IC plans during future mentoring visits.

For the purpose of a unified approach in implementing Standards Operating Procedures, during the reporting year, the project IC Specialist and Laboratory Infection Control Trainers developed more than 100 SOPs that make work in bacteriological laboratories easier and safer.

Per Task 2.1.3, the project is providing ongoing support to TB IC management teams. The IC Specialist together with NEGIC made 8 mentoring visits to Lviv, Odesa, Dnipropetrovsk, Kirovohrad, Kharkiv, Kherson, and Zaporizhzhia Oblasts were they met with heads of healthcare departments, and chief TB specialists of oblast state administrations. During these meetings, they discussed the implementation of the organizational component at regional level and in local organizations. This enabled the allocation of additional funding from local budgets for the needs of the infection control implementation according to international standards.

Activity 2.2: Increase the capacity of oblast Sanitary and Epidemiological Services (SES) to implement, monitor, and evaluate infection control (IC) interventions

During the reporting year, the project IC Specialist together with the NEGIC conducted eight mentoring visits to Lviv, Odesa, Dnipropetrovsk, Kirovohrad, Kharkiv, Kherson, and Zaporizhzhia Oblasts. They visited 30 healthcare facilities: 23 TB dispensary, five AIDS Centers, and two PHC facilities. 1,560 healthcare professionals received on-the-job training and information on TB IC.

Exhibit 13: Objective 2 Accomplishments

LOP Expected Results	Y2 Milestones
• Improved national and regional policies, guidelines and plans for implementation of IC measures according to international standards in all civilian and penitentiary facilities diagnosing and treating people with TB. • Developed and operationalized infection control (IC) plans for all facilities mentioned above in a phased approach. • All three types of IC measures (administrative, environmental and personal respiratory protection) as well as bio-safety measures in	• A National IC concept was developed, agreed with UCDC, and is now under consideration in the Public Health Department of the Ministry of Health of Ukraine. • Project developed the following IC regulatory documents: National Standard of TB Infection Control, Guidelines on UV-Radiation, Recommendations on IC to be included into the new National TB Program for 2017-2021, Guidance on TB Infection Control (was revised and updated according to the international standards). All the documents are with MOH for

LOP Expected Results	Y2 Milestones
facilities diagnosing and treating people with TB. • An integrated, modern IC management system in all TB hospitals and TB laboratories according to international standards. IC measures include improving practices, systems, and structures to reduce healthcare-acquired infections are in place in all 10 regions • Improve the capacity of SES to provide quality supervision and monitoring of IPC standards at the facility level in a collaborative manner. and • Improve the systems for evaluation of key indicators of the performance of the IPC measures at the facility level	approval. • STbCU contributed to the development of State Sanitary and Epidemic Rules and Norms for Handling of Medical Waste. The document was adopted by the MoH in September 2015 including recommendations provided by the project. • 60 NGOs representatives received knowledge on IC and international approaches in providing care for TB patients during three trainings conducted by the project. Participants learned to identify unified steps that help to influence managerial decisions on TB made by the government institutions. • IC Specialist made 30 mentoring visits, visited 12 laboratories of healthcare facilities, and provided training on IC for 40 laboratory specialists at TB facilities. • For the purpose of a unified approach in implementing Standards Operating Procedures, the project developed more than 100 SOPs for TB bacteriological laboratories.

Objective 3: Build capacity to implement PMDT Programs for Multidrug-Resistant/Extensively Drug-Resistant TB (MDR/XDR-TB) at the national level and in USAID-supported areas.

Activity 3.1: Provide training, supervision, and mentoring on MDR-TB case management based on WHO guidelines

Per Task 3.1.1, Strengthening TB Center of Excellence (COE), STbCU staff provided technical support to the clinical base of Dnipropetrovsk TB oblast dispensary. This support resulted in the following changes:

- The facility opened an anti-retroviral therapy (ART) site. One doctor and nurse on staff were trained on the basics of ART administration.
- To improve IC, the facility installed 30 combined UV lamps in high-risk zones: eight sputum collection points, bronchology office, X-ray department, dental office, and physiotherapy office. The facility improved the electronic table to record the results of UV lamp output measurement.
- The indicator of maintaining TB care standards increased from 93.9 percent to 95 percent. TB treatment starts within 3 days after receiving the test results; all cases are reviewed by the Central Medical Counseling Board and oblast MDR-TB counseling board. Second-line drugs are administered only on the basis of the decisions of the Central medical counseling board and oblast MDR-TB counseling board.
- DST results are issued timely: the test results are sent to the raions of the oblast on the same day via Internet. DST results in MDR-TB patients are continuously controlled.

- To standardize data and to improve feedback to the responsible physician sending the case to the Central Medical Counseling Board, the facility developed and introduced an electronic database of TB cases. This facilitates timely information exchange with the field.
- There is an Internet connection among the in-patient departments of the CoE. All departments have e-mail accounts. Moreover, the CoE plans to implement the "Hospital" program, which will allow for more effective information exchange and report generation.
- The expert team (consisting of the CoE teachers), with STbCU technical support, continues mentoring visits within the framework of the cascade training approach for the healthcare staff of Dnipropetrovsk oblast.

During the reporting period, the mentoring group of the CoE visited oblast healthcare facilities. During the visits, the mentoring group provided support to more than 100 health workers. The main areas of focus were TB detection and diagnostics in PHC settings (primary and secondary facilities), microscopy diagnostics, DOT organization, TB/HIV co-infection, TB infection control, and local clinical protocol development.

With project support, the CoE hosted 23 trainings supported by the project, including two trainings for the MDR-Counseling Board members.

Per Task 3.1.2, advocate for policy and guideline changes, STbCU experts provided joint project input to the Strategic Advisory Group on Healthcare Reform in Ukraine related to the National Health Reform Strategy for Ukraine. At the end of March, the strategy was posted on the MoH webpage: http://patients.org.ua/en/2015/03/18/the-final-version-of-the-national-health-reform-strategy-for-ukraine-has-been-published/. Some of the Strategy's recommendations are essential for reforming TB services and could directly influence systems of TB care in the near future (For more information see 1.1.1).

STbCU specialists contributed to the development of regulations on TB control in Dnipropetrovsk oblast. These regulations defined the strategic focal areas for oblast TB service for 2015 endorsed by Oblast health administration:

1. "On operation of central medical counseling board based in oblast TB facilities";
2. "On endorsing the plan for enhancing use of e-registry for TB patients";
3. "On implementation of Infection Control Standard in oblast healthcare facilities";
4. "On organizing M&E department in Dnipropetrovsk oblast".

In order to improve cooperation between the civil sector and the State Penitentiary Service (SPS) in Odesa Oblast, STbCU held a round table to coordinate interaction between TB and AIDS Services of the civil sector and the SPS. The round table outcomes included the following:

- Development of a "Plan for Cooperation between the Oblast Health Department and the SPS of Ukraine in Odesa Oblast to Ensure the Continuity of Providing Assistance to TB and HIV patients" and "the Expected Results of the Action Plan of Interaction between the Oblast Health Department and the SPS of Ukraine in Odesa Oblast to Ensure the Continuity of Providing Assistance to TB and HIV Patients in 2015."

- Developed route for delivery of biomaterial (sputum) from the Penal Colony No. 51 to the laboratory of the Odesa Oblast TB Dispensary. After that, TB suspected patients were presented to the Central Medical Advisory Committee of the civil sector.
- Established cooperation between the TB Service of the civil sector and the Detention Facility of the SPS in Odesa Oblast that started to present cases of patients among detainees to the Central Medical Advisory Committee – MDR-TB of Odesa Oblast TB Dispensary.

Taking into consideration the requirements of the National Clinical Protocol and the International Recommendations on Detained and Convicted Persons, these activities help to shorten the TB diagnosis and treatment commencement.

During the reporting period, the project also participated in six working meetings with national and international counterparts on reforming the healthcare system in the SPS. The meetings resulted in developing a plan of interaction between the SPS and international organizations.

According to the plan, the project would provide technical assistance in developing regulations on TB and will include SPS employees into trainings.

Per Task 3.1.3, support quality TB and MDR-TB case diagnostics and treatment, the project participated in the MDR-Counseling Boards in Kherson, Zaporizhzhia, Kirovohrad, Kharkiv, and Odesa Oblasts. The project experts assessed the existing regulatory documents, analyzed the work of the MDR-Counseling Boards, the quality of decisions made and the compliance with the international recommendations and the updated National Protocol for Managing TB Cases, and provided recommendations for work optimization.

As a result of the technical support provided by the project and UCDC, Dnipropetrovsk oblast Health Department in February 2015 issued the Order No. 121/0/197-15 “On Implementing Urgent Measures to Improve the Work of the Oblast Counseling Board for Considering Chemo Resistant TB Cases.” According to this order, the Oblast MDR-Counseling Board was transferred from the Oblast TB Dispensary to the Dnipropetrovsk City TB Dispensary. This contributed to positive changes in the MDR-Counseling Board’s work.

In order to improve the quality of medical care, especially for MDR-TB patients, STbCU TB specialist conducted two on-the-job trainings for members of the MDR-Counseling Boards in Dnepropetrovsk oblast, and provided technical assistance to the MDR-Counseling Board members in managing an electronic registry of MDR-TB patients.

To improve the quality of medical care for sensitive TB patients, the project provided technical support to branches of the central medical advisory committees in Dnipropetrovsk Oblast (CMAC). The project TB Specialist, together with TB Service representatives of Dnipropetrovsk city and oblast TB Dispensaries, made two visits to CMAC branches in Dniprodzerzhynsk and Pavlohrad. After the visits, local TB specialists started prescribing standard treatment regimens according to the Unified Protocol to TB patients and related pathogenic therapy only upon indication.

The mentoring group members provided recommendations on addressing the identified deficiencies, and conducted on-the-job training for 13 members of the CMAC in order to increase the knowledge and practices in managing TB cases.

Seminars on implementing the Unified Protocol

STbCU conducted seven seminars on the updated Unified Clinical Protocol of the Primary, Secondary, and Tertiary Health Care of Tuberculosis in Adults. Four hundred healthcare workers of the TB Service in the civil and penitentiary sectors improved their knowledge in diagnosis quality and effectiveness of TB treatment, including MDR-TB.

During the reporting period, the project provided support on the use of GeneXpert, installed in Odesa Oblast TB Dispensary and Krivyi Rih TB Dispensary No. 2 (KTBD No. 2) in December 2014, for MDR-TB and TB/HIV case management. In Odesa Oblast and Krivyi Rih, healthcare workers were trained in using the GeneXpert machines for accurate TB detection diagnosis. Availability of the second GeneXpert in the mentioned regions and use of the knowledge optimizes and accelerates laboratory diagnosis of MDR-TB risks in Odesa and Dnipropetrovsk oblasts, and contributes to the successful treatment of chemo-resistant TB.

In addition, the project also delivered 300 cartridges of diagnostic reagents to the KTBD No. 2 for operating the GeneXpert. This enabled 300 persons with suspected TB to undergo rapid TB diagnosis.

Per Task 3.1.4, collaborating on second-line drug management, the project participated in two meeting of the MoH on drugs, medical commodities, and other equipment to be procured as part of the NTP. The project advocated for improved second-line drug management during MDR councils and the availability of a three-month local supply of second-line drugs for each MDR patient.

Per Task 3.1.5, support mentoring and supervision of MDR-TB case management, including EQA of culture and DST laboratory network. The Project continued ensuring effective performance of TB laboratory network (Level 2 and 3 laboratories).To achieve this, STbCU conducted two trainings in TB bacterial diagnostics for 20 specialists of Level 2 laboratories. The majority of the training participants were specialists from the two new regions.

To improve the quality of TB diagnostics using rapid techniques, STbCU conducted a 5-day on-the-job training for 2 laboratory diagnostics specialists of Level 3 laboratory in Kryvyi Rih. Follow-up monitoring of this laboratory together with NRL specialists demonstrated significant improvement in the quality of tests, including GeneXpert and BACTEC, and adherence to the diagnostic algorithm of patient examination.

STbCU continued active participation in Level 2 laboratory EQA using two techniques recommended by the WHO: monitoring visits and panel testing.

The project fully ensured coverage of Level 2 laboratories with mentoring visits. In the reporting period, the supervising Level 3 laboratories conducted monitoring visits to 22 Level 2 laboratories (100%) of eight STBCU-supported regions, within EQA. The head of Central Reference Laboratory took part in 14 visits. The results of the monitoring visits to Level 2 laboratories:

Positive findings include:

- The quality of the investigations using different techniques
- The quality of record keeping and reporting
- Effective internal quality assurance procedures
- The quality of pre-laboratory stage

Problems include:

- Absence of the necessary equipment in some laboratories to improve biological safety for the healthcare staff, which reduces the quality of Tb diagnostics.
- Cases of impossibility to timely transport samples.

In order to solve this problem, STbCU has recommended the reorganization of regional TB laboratory network, equipment and staff to be handled over to larger TB laboratories (such strategic decisions are taken after the monitoring visits of the national experts conducted with STbCU support).

For the first time in Ukraine, STbCU in close collaboration with the NRL and UCDC, prepared and conducted EQA of bacteriological investigations via panel testing in Level 2 laboratories of the USAID-supported regions. Twenty-two out of 24 laboratories (or 92%) were tested. Two laboratories did not participate in panel testing: Odesa laboratory (the order to close this laboratory is being processed) and Kharkiv oblast (due to technical reasons, EQA will be conducted later). Twenty one laboratories (95% of those which participated in the EQA) completed EQA successfully. According to the EQA results, Level 2 laboratories which successfully completed the test will receive a National Quality Certificate.

STbCU continues supporting EQA of bacteriological tests and DST in Level 3 laboratories of the USAID-supported oblasts, using different techniques (according to the country's regulations and international recommendations). The representatives of the NRL conducted EQA via monitoring visits to the laboratory network of four STBCU-supported regions: Lviv, Kherson, Dnipropetrovsk, and Odesa oblasts. The team inspected five Level 3 laboratories and 12 Level 2 laboratories. The visit results were presented to oblast administration.
In the reporting period, eight out of nine Level 3 laboratories successfully completed panel testing EQA, making 89% of all laboratories (Year 3 indicator - 87%). The only exception was Level 3 laboratory of Kirovohrad oblast. To improve this situation, specialists working in this laboratory, will attend an on-the-job training, and the head of the CRL will conduct a monitoring visit to this laboratory. After such follow-up activities, in accordance with the rules and regulation, the laboratory will undergo panel testing again.

Exhibit 14: Objective 3 Accomplishments

LOP Expected Results	Y2 Milestones
• Improved policy and legal environment for implementation of PMDT according to international standards • Developed national guidelines for MDR-TB, consistent with international standards • Develop a group of national experts to provide MDR-TB expertise • Develop an external quality assurance network for culture and DST with a supra-national reference lab • Improve adherence to treatment through a social support system • Improve case management	• CoE hosted 23 trainings supported by the project, including 2 trainings for the MDR-Counseling Board members. • Improved cooperation between the civil sector and the SPS in Odesa Oblast: developed a route for delivery of biomaterial (sputum) from the Penal Colony No. 51 to Oblast TB dispensary, SPS started to present cases of TB to CMAC, shortened TB diagnosis and treatment commencement. • Improved quality of TB and MDR-TB case diagnostics and treatment due to the project's participation in the MDR-Counseling Boards in Kherson, Zaporizhzhia, Kirovohrad, Kharkiv, and Odesa Oblasts. • 400 health care workers of the TB Service in the civil and penitentiary sectors improved their knowledge in diagnosis quality and effectiveness

LOP Expected Results	Y2 Milestones
of MDR-TB patients	of TB treatment, including MR-TB after participation in 7 seminars on updated Unified Clinical Protocol conducted by STbCU. • Local TB specialists in Dniprodzerzhynsk and Pavlohrad cities (Dnipropetrovsk oblast) started prescribing standard treatment regimens according to the Unified Protocol to TB patients and related pathogenic therapy only upon indication after mentoring provided by project TB Specialist, together with TB Service representatives of Dnipropetrovsk city and oblast TB Dispensaries. • 300 persons with suspected TB received rapid TB diagnostics at Kryvyi Rih TB Dispensary thanks to availability of 300 cartridges of diagnostic reagents for operating the GeneXpert delivered by the project. • Patients with suspected TB are receiving rapid TB diagnostics on GeneXpers provided by the project in Odesa Oblast TB Dispensary and Krivyi Rih TB Dispensary. Healthcare workers were trained in using GeneXpert in the TB diagnosis. Availability of the second GeneXpert in the mentioned regions and use of the knowledge enabled to optimize and accelerate laboratory diagnosis of MR TB risks in Odesa and Dnipropetrovsk oblasts. • 20 specialists of Level 2 laboratories, mostly from the 2 new regions, improved knowledge and skills on TB bacterial diagnostics at 2 trainings conducted by STbCU. • 2 laboratory diagnostics specialists of Level 3 laboratory in Kryvyi Rih significant improved quality of tests, including GeneXpert and BACTEC, and adherence to the diagnostic algorithm of patient examination after completion of the 5-day on-the-job training organized by the project. • For the first time in Ukraine, 22 out of 24 Level 2 laboratories (92%) completed EQA of bacteriological investigations via panel testing prepared and conducted by STbCU in close collaboration with NRL and UCDC. • 5 Level 3 laboratories and 12 Level 2 laboratories in Lviv, Kherson, Dnipropetrovsk, and Odesa oblasts were inspected with EQA via monitoring visits by the representatives of the NRL with STbCU support. • The project fully ensured coverage of Level 2 laboratories with mentoring visits: the supervising Level 3 laboratories conducted monitoring visits to

LOP Expected Results	Y2 Milestones
	22 Level 2 laboratories (100%) of 8 STBCU-supported regions, within EQA.

Objective 4: Improve access to TB/HIV co-infection services at the national level and in USAID-supported areas.

Activity 4.1: Identify gaps in TB/HIV co-infection services and build capacity to address them

Task 4.1.1. Undertake a gap analysis in TB/HIV co-infection services. This activity was completed in Year 1.

Per Task 4.1.2, to identify gaps in TB/HIV co-infection services and build capacity to address them, the project focused on implementing recommendations of the gap analysis conducted in 2013 with the assistance of the Global Tuberculosis Institute at Rutgers, the State University of New Jersey (GTBI). This year the project continued to follow the strategy of building capacity and facilitating sustainable changes in TB/HIV service system in the pilot regions, in accordance to PEPFAR recommendations.

Using the results of "TB/HIV Gap Analysis," the project in collaboration with GTBI staff, developed "Action plan of capacity building and improving quality of TB/HIV services to overcome the challenges of referral and integrated care system" and key TB/HIV indicator profiles. The plan was agreed with the UCDC. With the technical support of the STbCU, specialists of oblast AIDS Centers in Kherson, Kharkiv, Zaporizhzhia, Lviv, Kirovohrad regions, and Kyiv municipal AIDS center, together with oblast TB service, developed their own plans and indicators and agreed on them with Oblast health administrations. Availability of strict monitoring indicators in regions to monitor TB/HIV activities under the recommendations of the WHO and PEPFAR, allowed them to obtain strategic information for decision making and adjusting planned activities. Thirty-three raion health care facilities developed and endorsed similar plans, this number exceeding the STbCU plan twice over**.**

To strengthen capacity of the AIDS centers staff, the project introduced a tool for self-sssessment and analysis of TB/HIV activities in AIDS Centers developed by the project TB/HIV specialist. The tool is an easy-to-fill questionnaire that takes into consideration PEPFAR recommendations on integrity and continuity of medical care. The Tool provided strategic information in limited resource circumstances and allowed specialists of the AIDS Centers to further improve TB/HIV services. Next year STbCU plans to implement such a tool in TB facilities.

During the reporting period, STbCU paid special attention to improvement of collaboration between TB and HIV service specialists on TB/HIV co-infection. To achieve this, the project established and trained multidisciplinary teams to provide mentoring assistance during visits to oblasts healthcare facilities. At the beginning of the Year 3, the project selected three pilot regions (Dnipropetrovsk, Zaporizhzhia, and Kharkiv) where the most severe challenges of collaboration between TB and HIV services were observed, and covered all their raions with mentoring visits in TB/HIV. STbCU specialists, together with regions' specialists, performed such mentoring visits to 86 raions (172 healthcare facilities), making up 119% from what had been planned for the year, according to the work plan. After visits, STbCU conducted 10

working meetings for the specialists of the visited raions to discuss observed results and develop joint recommendations for further improvement. The mentoring team demonstrated best practices and positive models of TB/HIV case management which were achieved in the visited raions, and proposed ways to overcome existing challenges. As a result, 219 healthcare facilities worked out and endorsed Local protocols of TB/HIV case management, with Patient's Route, which exceeds the plan trifold. This experience was highly appreciated by the UCDC and the regional stakeholders. The project plans to expand this experience to other regions in the next project year.

During the visits the mentoring teams used a monitoring tool to assess the facilities: a questionnaire (similar to the PEPFAR forms), worked out by the STbCU TB/HIV specialist. The tool includes qualitative and quantitative indicators allowing comparing the performance with other facilities and evaluating the effectiveness of cascade approach. It is based on the visual data assessment allowing the regions to easily and quickly obtain the necessary information and adjust their plans accordingly. The tool differs in the data assessment technique from the others used previously by the WHO and the Global Fund monitoring instruments, which were too complicated to evaluate. Further on the project will recommend this tool to use by the UCDC to ensure sustainability of changes.

The project involved the national experts from the UCDC to participate in visits to Oblast AIDS Centers and TB dispensaries of all pilot regions. STbCU conducted on-the-job trainings and organized meetings to discuss TB/HIV challenges that the medical staff had to face. The national UCDC experts demonstrated the capacities of evaluation and analysis with the use of data from TB/HIV section of e-TB Manager, and analyzed the quality of its completion. In order to increase awareness of TB/HIV in healthcare staff of all regions, the Project made a video of UCDC national experts answering TB/HIV-related questions and placed it on its website.

For Task 4.1.3. – The project conducted two trainings on "Provider-initiated HIV testing and counseling effective referral" for 48 TB specialists of Lviv oblast. They gained knowledge on cascade detection of HIV infection in TB patients and on improving TB/HIV case management through improved counseling for HIV testing. The trainings were aiming at reducing the number of lost to follow-up cases at the stages of pre-test counseling, HIV testing, post-test counseling and AIDS center referrals, according to the PEPFAR recommendations.

Activity 4.2: Ensure HIV testing for TB patients and effective referral of those found to be HIV positive

Task 4.2.1: Scale-up quality HIV testing and referral models for co-infected patients at TB clinics

According to the PEPFAR recommendations, the TB/HIV Specialist developed amendments to the TB/HIV Section of the Draft Order of the Ministry of Health of Ukraine "The Procedure for HIV Counseling and Testing" and the VCT reporting form (form No. 3), and submitted them to the UCDC. The implementation of this order will improve early detection of TB/HIV co-infection and will assist to avoid "losses to follow up" during counseling, HIV testing, and registering at AIDS centers.

Poster presented at the national conference on results of cascade approach on TB/HIV services for prisoners in Kharkiv

Due to the project's technical support, the section on TB/HIV co-infection was included to HIV/AIDS Regional Programs in Kharkiv, Kherson, Zaporizhzhia, and Kirovohrad oblasts. This section includes activities on TB prevention, screening, and diagnosis among PLHIV and TB/HIV treatment. This allowed heads of regional authorities to consider the needs in funding these activities from local budgets and improve the organization and monitoring of their implementation. Other pilot regions created their draft programs, but did not approve them yet due to the healthcare system reforms.

During their mentoring visits, trainings, and other educational events, project experts advocated the introduction of HIV voluntary counseling and testing by health workers using rapid tests for HIV screening among TB patients into a routine practice.

The project carried out extensive work in penitentiary institutions of Kharkiv oblast. From August 2014 to July 2015, the NGO "Parus" implemented the Project "Improving Access to TB/HIV Co-infection Services in Penitentiary Institutions" in Kharkiv Oblast. Under this project, TB/HIV activities were conducted in correctional institutions No. 12, 17, 18, 25, 43, 54, and 100 in Kharkiv oblast.

The NGO conducted 10 trainings for 65 healthworkers of correctional facilities. Healthcare professionals were trained in basics of cascade approach to managing TB/HIV patients and PLHIV with suspected TB, as recommended by PEPFAR.

In addition to training for healthcare professionals, the project conducted interactive sessions among 1,858 prisoners to improve their motivation to undergo TB/HIV diagnosis and treatment. The Volunteers School worked for 257 prisoners. It was aimed at developing mutual-help volunteering on a "peer-to-peer" principle.

Cascade approach to healthcare services for prisoners

413 screening questionnaires were conducted among PLHIV for TB symptoms. 122 persons exhibiting symptoms similar to TB underwent repeated examination. It resulted in revealing 8 TB cases, which is 6.5% of the detectability. All these patients were sent to the TB facility VK No.17 for treatment.

The NGO "Parus" published brochures "Seven Answers to Important Questions about TB" and distributed them among prisoners. The NGO recorded audio lectures on TB/HIV. CDs with radio lectures and brochures were distributed among other penitentiary facilities during the National Conference "Healthcare behind Bars" held on July 09, 2015.To ensure continuity of TB/HIV patients' management, the social and psychological support was focused not only on providing healthcare services to patients in detention, but also on encouraging them to continue their treatment after being released. Social workers provided medical and social support to 335 prisoners in the form of individual counseling. Out of them, about 200 persons improved their attitude to the TB/HIV diagnosis and treatment.

Within the Project framework, 72 TB and TB/HIV patients received support after release from penitentiary facility #17: they were accompanied to the civic treatment sites. Such

support included preparation for release, and communication with TB specialists in oblast/raion TB dispensaries and infectious disease specialists of the oblast AIDS Center. In the course of follow-up support, 115 counseling sessions were provided by the social worker and 48 by a psychologist.

The Project included the component of TB /HIV patients referral to other NGOs for further support related to HIV infection, TB treatment in the civil sector, social issues, and human rights protection. Clients were informed about the services provided by PLWH Network, the URCS, human rights protection organizations (in individual cases), and organizations supporting homeless people and people in difficult life circumstances, and were provided contacts of local offices of such organizations.

Activity 4.3. Provide TB screening of HIV patients and referral to TB services for those with suspected cases of TB

Per Task 4.3.2, STbCU continued promoting the WHO-recommended care algorithms to institutionalize PEPFAR TB/HIV patients' pathways, including:

- Proper follow-up for PLHIV (screening for symptoms of presumptive TB, X-ray screening and GneXpert testing);
- Isoniazid preventive treatment for PLHIV with no signs of presumptive TB;
- Co-trimoxazol preventive treatment for TB/HIV patients;
- Early administration of ART for TB/HIV patients;
- Increasing adherence to ART in PLHIV as the most effective way to prevent TB/HIV.

During the reporting period STbCU conducted working meetings with regional PHC, HIV and TB specialists in TB/HIV co-infection. A total of 898 healthcare workers received knowledge on TB/HIV management and, afterwards, introduced TB screening questionnaires among PLHIV and sputum testing using GeneXpert among PLHIV with suspected TB into routine practice in all pilot regions. The project paid particular attention to new regions: – Lviv oblast (65 persons trained) and Kirovohrad oblast (71 persons trained).

STbCU implemented an effective tool for monitoring services provided to patients with TB/HIV in AIDS Centers of pilot regions. The TB/HIV specialist developed and supported maintenance of a database for monitoring TB/HIV services received by PLHIV in AIDS Services in pilot regions from May 2013 to June 2015. Specialists from the AIDS Center collected information and inserted it into database during HIV/AIDS patients' visits seeking medical assistance.

The following information was collected:

- TB screening questionnaires among PLHIV to identify TB symptoms;
- Data on undergoing tests to diagnose TB by PLHIV, including GeneExpert, sputum microscopy and X-ray;
- Information on IPT administration;
- Information on administering co-trimoxazole prophylaxis to TB/HIV patients;
- Date of ART administration to TB/HIV patients (to assess early ART); and
- Date of TB treatment administration.

Information from the database was used to monitor the effectiveness of referral of TB/HIV patients to other healthcare facilities for diagnostic testing and treatment, evaluate the TB

diagnostics coverage among PLHIV, and monitor the timely TB/HIV treatment administration.

Given the PEPFAR recommendations, the effectiveness of referral of patients was assessed based on reduced number of "losses to follow up" at different stages of diagnosis and TB/HIV treatment. This type of information was not included into the state accounting and reporting forms.

The TB/HIV Specialist presented the results of piloting the specified database to the UCDC and advocated the use of the database at the national level for all regions. The UCDC experts made a decision on making amendments recommended by the project to AIDS accounting and reporting forms (reporting form No. 1, No. 2, No. 58, and accounting form No. 502, and No. 030) and the National AIDS Database to include a section on TB diagnosis and treatment.

Exhibit 15: Objective 4 Accomplishments

LOP Expected Results	Y2 Milestones
• Identify the gaps for TB/HIV integrated service delivery and referral systems and develop a plan for addressing the gaps. • Improve the capacity of local organizations through technical assistance for HIV and TB/HIV related activities. and • Improve the policy environment among local organizations to support HIV and TB/HIV related activities • Adapt and implement the HIV testing and referral model for TB patients at USAID-assisted sites. • Increase the percentage of TB patients who have a HIV test result recorded in the TB register among the total number of registered TB patients. • Increase the proportion of newly diagnosed HIV and TB individuals who undergo diagnostic and counseling services for dual infection in USAID-assisted sites	• With STbCU support, Kherson, Kharkiv, Zaporizhzhia, Lviv, Kirovohrad regions and Kyiv city administrations approved local Action plans of capacity building and improving quality of TB/HIV services to overcome the challenges of referral and integrated care system. Thirty three raion health care facilities developed and endorsed similar plans in these regions. • Due to the project's technical support, the section on TB/HIV co-infection was included to HIV/AIDS Regional Programs in Kharkiv, Kherson, Zaporizhzhia, and Kirovohrad oblasts. This allowed heads of regional authorities to consider the needs in funding these activities from local budgets and improve the organization and monitoring of their implementation. • Quality of services in AIDS Centers in all project-supported regions improved as a result of introduction and maintenance Self-Assessment Monitoring Tool, developed by the project based on PEPFAR recommendations on integrity and continuity of medical care. • 219 healthcare facilities in Dnipropetrovsk, Zaporizhzhia, and Kharkiv regions worked out and endorsed Local protocols of TB/HIV case management, with patient's route. • 172 healthcare facilities in 86 raions received support from multidisciplinary teams on TB, TB/HIV patients management as a result of mentoring visits. • 48 TB specialists in Lviv oblast gained knowledge on cascade detection of HIV infection in TB patients and on improving TB/HIV case management through improved counseling for HIV testing.

• Increase TB screening and referral model for HIV positive patients implemented at USAID-assisted sites • Increase the percentage of HIV positive patients who underwent TB screening at a HIV service delivery location. • Increase the proportion of newly diagnosed HIV and TB individuals who underwent diagnostic and counseling services for dual infection in USAID-assisted sites	• According to the PEPFAR recommendations, the TB/HIV Specialist developed amendments to the TB/HIV Section of the Draft Order of the Ministry of Health of Ukraine "The Procedure for HIV Counseling and Testing" and the VCT reporting form (form No. 3), and submitted them to the UCDC. The implementation of this order will improve early detection of TB/HIV co-infection and will assist to avoid "losses to follow up" during counseling, HIV testing, and registering at AIDS centers • 65 health workers of penitentiary institutions in Kharkiv oblast improved knowledge on basics of cascade approach and skills on managing TB/HIV patients and PLHIV with suspected TB as a result of 10 trainings conducted. • 1,858 prisoners of correctional facilities in Kharkiv oblast improved their motivation to undergo TB/HIV diagnosis and treatment as a results of interactive training sessions conducted by NGO 'Parus'. • 335 prisoners received medical and social support in the form of individual counseling from social workers, and became motivated to continue their TB/HIV treatment after being released. • 72 TB and TB/HIV patients received support after release from penitentiary facility # 17: they were accompanied to the civic treatment sites. Such support included preparation to release, communication with TB specialists in oblast/raion TB dispensaries, infectious disease specialists of the oblast AIDS Center. • A total of 898 PHC, HIV and TB specialists healthcare workers (65 from Lviv and 71 from Kirovograd oblasts) received knowledge on TB/HIV management and, afterwards, introduced TB screening questionnaires among PLHIV and sputum testing using GeneXpert among PLHIV with suspected TB into routine practice in all pilot regions. • STbCU implemented an effective tool for monitoring services provided to patients with TB/HIV in AIDS Centers of pilot regions. The TB/HIV specialist developed and supported maintenance of a database for monitoring TB/HIV services received by PLHIV in AIDS Services in pilot regions from May 2013 to June 2015. The TB/HIV Specialist presented the results of piloting the specified database to the UCDC and advocated the use of the database at the national level for all regions. The UCDC experts made a decision on making amendments recommended by the project to AIDS accounting and reporting forms (reporting form No. 1, No. 2, No. 58, and accounting form No. 502, and No. 030) and the National AIDS Database to include a section on TB diagnosis and treatment.

II. SCHEDULES

- The armed conflict in Donetsk and Luhansk oblasts effectively prevented STbCU's holding training events and most mentoring visits from May 2014 through the time of report writing.
- An initial agreement with the Kyiv city TB service on supporting the initiative of Kyiv TB service on piloting DOTs provision through visits and adherence support was canceled because the Kyiv city state administration did not sign a protocol of intentions with the project.
- STbCU's small grants for ACSM and operational research have been delayed at the beginning of the year due to longer than anticipated selection procedures.
- STbCU canceled an international training activity to be held in Tbilisi, Georgia, which will train specialists from the National Expert Group on Infection Control on operating biosafety cabinets to improve laboratory and environmental control, instead invited international consultant on IC to the country.
- National partners have not requested support for the revision of Order 45, "On endorsing instructions on TB bacterial diagnostics." This activity has been canceled.
- STbCU canceled activity 'purchase equipment for measuring TB IC measures (such as UV meter) because the project considers such investment inefficient.
- Training on the use of e-TB Manager was planned as a support to the partner project Systems for Improved Access to Pharmaceuticals and Services (SIAPS), that primarily works on introduction of the manager. SIAPS did not request support from the project, thus activity was canceled.
- The development of a national M&E plan was postponed to the next project year since national leading partners decided not to develop an M&E plan for the current TB Program, but rather concentrate on development of a new 2017-2021 National TB Program and respectful M&E Plan.

III. CHALLENGES

During Year 3, the team worked to overcome a number of challenges, described below.

Reformation of Ukraine's healthcare system is in progress now. Early steps have included the changes to the main governmental managerial structure in Health System including State Services, SES, and the Ministry of Health itself. Due to this, many governmental working groups have been dismissed and some strategic documents developed with the technical support of the Project have not been approved.

Additionally, while the new protocol on provision medical care to patients with TB was approved and came into force, health professionals cannot fully comply with it. Many regulatory documents in Ukraine run counter to this Protocol. For example, the Protocol recommends outpatient treatment under the supervision of a family physician or nurse in the continuation phase. However, according to regulatory documents all funding goes to a bed, not to a patient. It makes TB doctors keep patients in hospital longer than the set period. Therefore, development of a complete model of outpatient treatment, even in the pilot region, is impossible. No funding for this exists currently, but it would be possible to find funding by reducing excess hospital bed capacity. However the Constitution of Ukraine prohibits reducing medical institutions. Thus, fulfillment all requirements of the Protocol demands fundamental changes in the regulatory framework of Ukraine and even in the constitution.

Economic instability in the country and devaluation of the currency at the beginning of 2015 was a big challenge for the project that resulted in serious delay with approval of the project-supported small grants.

STbCU identified the main problem with DOTs implementation in Lviv oblast: despite existence of local protocols of DOT implementation, DOT units or DOT services were not set up in primary healthcare facilities in Lviv, and they do not provide directly observed outpatient treatment of TB patients. STbCU plans to address this issue at the level of the Healthcare Department of Lviv oblast and the Lviv City Council during the next project year.

The following key lessons were learned during Year 3:

- In order for the project activities to be effectively and timely implemented, stability within the Ministry of Health and a stable tenure of the health minister are essential. Yet it is not so, patience, flexibility, and planning are required to successfully assist regional and national partners;

- STbCU assessed knowledge survival rate among those who successfully completed the project-supported training and observed, that lack of support from the side of local authorities prevents proper implementation of new practices for better TB case management. The project realized, that in order to sustain project-supported results, it is important to strengthen in Year 4 advocacy to local oblast and regional level authorities in support of DOTS-strategy.

- In Year 3 the project executed working meetings with Level 1, 2, and 3 healthcare specialists to jointly discuss observations made during the mentoring visits and to develop next steps to improve TB and TB-HIV case management practices. STbCU find this new practice to be an effective and highly efficient instrument for problem resolving in the regions and plans to expend this practice to all regions and to turn such meeting in to a platform for comprehensive discussion of the topical TB related problems.

- Today UCDC is the only state organization responsible for implementing the state policy in the field of infection control, thus it is important to focus on strengthening cooperation at the national level between UCDC and key partners working in the area of IC.

ANNEXES

Annex A. Performance Monitoring and Evaluation Report

Annex B. Success Stories

Annex C. List of Sub-Awards

ANNEX A. PERFORMANCE MONITORING AND EVALUATION REPORT

Exhibit A-1. Strengthening Tuberculosis Control in Ukraine (STbCU) Project Indicators

Indicator		Frequency	Reporting Period	Baseline	Year 3 (2014) Targets	Year 3 (2014) Results
Project Objective: Decreased TB burden, contributing to a reduction of TB morbidity and mortality, decreasing the burden of TB through specific quality assurance and systems strengthening measures for routine TB services, and MDR-TB and HIV/TB co-infection						
Project Intermediate Result (PIR) 1. Improved quality and expanded availability of the WHO-recommended DOTS-based TB services in USAID-supported areas						
1.	TB incidence (notification rate) in USAID-supported areas, per 100,000	Annually	January – December 2014	72.9	67.0	64.7
2.	TB mortality rate in USAID-supported areas, per 100,000	Annually	January – December 2014	17.9	15.0	13.0
3.	Treatment success rate in USAID-supported areas (cohort indicator)	Annually	January – December 2014	54.2%	72%	59.1
4.	Lost to follow up rate in USAID-supported areas (cohort indicator)	Annually	January – December 2014	9.4%	7.5%	7.2
5.	Treatment success rate nationally (cohort indicator)	Annually	January – December 2014	56.6%	70%	63.4
6.	Treatment success rate in non-USAID-supported areas (cohort indicator)	Annually	January – December 2014	67.1%	72%	66.4
7.	Percent of laboratories in USAID-assisted areas performing TB microscopy with over 95% correct microscopy results	Annually	January – December 2014	72.3%	88.7%	98%
8.	Smear microscopy TB detection at the PHC level	Annually	January – December 2014	2.2%	3.0%	2.5%
9.	Percent of smear-positive individuals with positive TB culture	Annually	January – December 2014	46.0%	53.0%	60.8%
10.	Percent of estimated number of new TB cases that were detected under DOTS	Annually	January – December 2014	73.0%	73.0%	73.0%
11.	Percent of public sector TB treatment facilities with health care professionals trained in TB case detection and treatment based on DOTS[1]	Annually	October 2014 – September 2015	0%	80%	80%
12.	Number of health care workers who successfully completed an in-service training program	Quarterly	October 2014 – September 2015	0	700	719

[1] Reflected in the Task Order as indicator "*Number of people (medical personnel, health workers, community workers, etc.) trained on DOTS with USG funding*"

	Indicator	Frequency	Reporting Period	Baseline	Year 3 (2014) Targets	Year 3 (2014) Results
13.	Percent of Ukrainians with access to DOTS services that meet international standards	Annually	January – December 2012	50.0%	52.0%	48.3%
PIR 2. Creating a safer medical environment at the national level and in USAID-supported areas						
14.	TB incidence among health care workers, per 10,000	Annually	January – December 2014	7.5	5.5	5.3
15.	Number of facilities with proper infection control practices in place	Annually	October 2014 – September 2015	6	80	80
16.	Proportion of health care workers that are knowledgeable on proper infection control practices	Annually	October 2014 – September 2015	0%	40%	87.7%
PIR 3. Build capacity to implement PMDT programs for multidrug-resistant/extensively drug-resistant TB in USAID-supported areas						
17.	MDR-TB treatment success rate among new MDR-TB cases (cohort indicator) in USAID-supported areas	Annually	January 2012 – December 2013	36.6%	50.0%	45.2%
18.	MDR-TB default rate among new MDR-TB cases (cohort indicator)	Annually	January 2012 – December 2013	12.3%	8.7%	16.8%
19.	Percent of Level 3 laboratories in targeted regions performing quality-assured culture and DST	Annually	January 2012 – December 2013	64.0%	87.0%	89.0%
20.	Percent of health facilities with proper MDR-TB management	Annually	January 2012 – December 2013	0%	40.0%	100%
21.	Percent of Ukrainians in USAID-assisted areas with access to PMDT that meets WHO international standards	Annually	January 2012 – December 2013	50.0%	52.0%	48.3%
PIR 4. Improve Access to TB/HIV Co-infection Services at the national level and in USAID-supported areas						
22.	Percentage of TB patients who had an HIV test result recorded in the TB register among the total number of registered TB patients in USAID-supported sites	Semi-annually	January – December 2014	80.0%	97.0%	95%
23.	Proportion of newly diagnosed HIV and TB individuals who undergo diagnostic and counseling services for dual infection in USAID-supported sites	Semi-annually	January – December 2014	80.0%	90.0%	96.0%
24.	Proportion of TB patients who are counseled and tested for HIV at USAID-assisted sites (Previously indicator 26)	Semi-annually	January – December 2014	80.0%	90.0%	95%

Comments on the Indicators

PIR 1. Improved quality and expanded availability of the WHO-recommended DOTS-based TB services in USAID-supported areas

Indicator 1. TB incidence in USAID-supported areas in 2014 makes 64.7 cases per 100,000 population. This is lower than the project's target for Year 3 of 67.0 cases per 100,000 population. (See Exhibit A-1). Although we present TB incidence rate in USAID-supported areas for the previous year, figures are incomparable with year 2014, since in the Year 3 the project changed the regions of support: Donetsk, Luhansk regions, Autonomous Republic of Crimea (AUC) and Simferopol city are no longer included in calculations due to inability to collect the data (or indeed, provide technical assistance). Lviv and Kirovograd oblasts were added in October 2014 as the project's two new regions. Since the incidence rate in the new regions is significantly lower than in Donetsk, Luhansk, AUC, and Simferopol City, it affected the Y3 results.

Exhibit A-2. Incidence rate per 100,000 population in USAID-supported areas in 2011, 2012, 2013 and 2014

Region	2011	2012	2013	2014
Dnipropetrovsk oblast	95.4	92.9	91.0	79.0
Zaporizhzhia oblast	65.8	69.4	67.5	64.4
Lviv oblast	64.5	66.6	64.9	65.8
Odesa oblast	87.8	94.0	90.6	98.2
Kirovograd oblast	79.2	77.8	77.2	78.9
Kharkiv oblast	54.5	49.8	44.7	41.9
Kherson oblast	98.5	107.9	96.2	84.4
Kyiv city	38.9	41.2	52.5	43.3
Total in USAID-supported regions	**72.9**	**73.2**	**72.5**	**64.7**

Indicator 2. The mortality rate in USAID-supported areas in 2014 came to 13.0 cases per 100,000 population and is below the estimated rate of 15.0 cases per 100,000 population.

Indicators 3-6. These indicators measure the treatment success rate in USAID-supported areas (cohort indicator), the lost to follow up rate in USAID-supported areas (cohort indicator), and the treatment success rate nationally in non-USAID-supported areas (cohort indicator) (Exhibit A-2). The treatment success rate in each USAID-supported oblast in 2014 remained almost the same as in 2013.

Exhibit A-3. Treatment Outcome Disaggregated by *Oblast*

Region	Treatment Success (Percent) Baseline	Treatment Success (Percent) 2014	Target 2014	Death (Percent) 2014	Lost to follow up (Percent) 2014
Dnipropetrovsk *oblast*		54.9		19.5	6.8
Zaporizhzhia *oblast*		69.6		9.6	3.2
Odesa *oblast*		59.7		19.6	7.3
Kirovograd *oblast*		62.8		12.8	3.9
Kharkiv oblast		59.8		15.6	5.8
Kherson *oblast*		62.3		11.4	9.8
Kyiv city		51.6		14.0	13.1
Lviv *oblast*		68.4		8.1	7.5
USAID-supported	54.2	59.1	72%	14.9	7.2
Non-USAID- supported	67.1	66.4	72%	14.0	5.8
Ukraine	56.6	63.4	72%	14.4	6.4

Source: UCDC Annual Report 2015. Data on treatment outcomes of new TB cases are calculated without taking into consideration cases transferred out into 4th category.

Exhibit A-4. TB Treatment Outcomes Disaggregated by Gender and Oblast

Region	Newly diagnosed (percent)		Treatment Success (Percent)		Death in Cohort (Percent)		Failure (Percent)		Lost to Follow Up (Percent)	
	M	F	M	F	M	F	M	F	M	F
Dnipropetrovsk oblast	67.3	32.7	43.0	46.8	16.6	18.4	12.2	9.0	9.0	5.7
Kirovograd oblast	78.2	21.8	50.4	69.6	12.1	14.5	19.0	20.3	6.5	72
Kharkiv oblast	71.7	28.3	41.9	53.7	16.2	10.7	11.4	8.7	8.0	4.0
Kherson oblast	73.3	26.7	43.5	51.0	8.6	9.2	7.1	9.2	11.2	3.1
Lviv oblast	75.1	24.9	56.6	58.3	11.4	10.2	12.6	11.1	9.8	9.3
Odesa oblast	70.1	29.9	44.0	48.8	16.2	17.3	10.9	7.6	8.4	5.9
Zaporizhzhia oblast	75.0	25.0	53.7	59.1	8.3	6.1	10.6	7.6	5.3	2.3
Kyiv city	73.6	26.4	43.7	41.0	13.4	11.5	13.4	12.2	12.7	12.9
USAID supported	72.5	27.5	50.0	54.1	12.9	12.7	12.1	9.1	7.6	6.7

Indicator 7. The proportion of laboratories in USAID-assisted areas performing TB microscopy with over 95 percent correct results in 2014 reached 98 percent, exceeding the target of 88.7 percent.

In 2014 the number of laboratories with excellent EQA results scoring 95 and more on panel testing, increased compared with 2012 and 2013. Laboratories of all 6 regions improved their panel testing results. The progress of Odesa oblast is worth a special notice as the rate of laboratories with correct panel testing results increased during the period between 2012 and 2014 from 17% to 68% and 94%, respectively. The laboratories of Zaporizhzhia oblast and the city of Kyiv have had quite high results already in 2013, while in 2014 all (100%) of laboratories in these regions reached excellent panel testing results. The laboratories of Kharkiv and Kherson oblasts continue demonstrative stable and maximally high results. The rate of laboratories with excellent panel testing results in Dnipropetrovsk oblast was 98% because one Level 1 laboratory (newly established) did not participate in the EQA (Exhibit A-5).

Exhibit A-5. EQA results in USAID-supported regions

Region	Number of laboratories that participated in EQA	Number of laboratories performing TB microscopy with over 95% correct results	Percent of laboratories performing TB microscopy with over 95% correct results, 2014	Percent of laboratories performing TB microscopy with over 95% correct results, 2013	Percent of laboratories, demonstrated 95% and more correctness, 2012
Dnipropetrovsk	47	46	98	94	100
Kharkiv	40	40	100	100	97
Kherson	24	24	100	100	100
Odesa	50	47	94	68	17
Zaporizhzhia	26	26	100	97	78
Kyiv	13	13	100	91	96
Total	285	399	98	88	74

Indicator 8. The smear microscopy TB detection rate at the PHC level in USAID-supported regions during the reporting period makes 2.5 percent, which is below the

Year 3 target of 3.0 percent. If to calculate the indicator without taking into consideration Lviv and Kirovograd oblasts, where the project started working only at the end of 2014, the average indicator in USAID-supported oblasts will make 2.9 percent, which is almost the target. The rate in USAID-supported regions exceeds the Ukrainian average of 2.2 percent and in NON-USAID-supported regions, which is 2.0 percent. This confirms the sustainability of improvements achieved through project activities.
The disaggregation by region is presented in Exhibit A-6.

Exhibit A-6. Smear microscopy TB detection in the USAID-supported regions

Region	2011 (Percent)	2012 (Percent)	2013, (Percent)	2014, (Percent)
Dnipropetrovsk *oblast*	3.0	3.7	3.7	2.8
Kirovograd oblast				3.2
Kharkiv *oblast*	1.1	1.3	1.3	1.4
Kherson *oblast*	3.7	4.4	3.7	4.4
Lviv oblast				0.8
Odesa *oblast*	1.4	1.9	3.5	4.8
Zaporizhzhia *oblast*	2,1	2.3	2.8	3.1
Kyiv	3.1	3.1	3.2	4.9
Average in USAID-supported regions	**2.2**	**2.6**	**3.1**	**2.5**
Average in Non-USAID-supported regions				**2.0**
Average in Ukraine				**2.2**

Indicator 9 records the percentage of smear-positive individuals with positive TB culture. In USAID-supported regions this indicator was 60.8 percent in 2014 and exceeds the target rate of 53 percent by 7.8 percent, indicating improved laboratory performance.

Indicator 10 records the percentage of the estimated number of new TB cases that were detected under DOTS. In 2014 in Ukraine 73.4 percent of estimated number were detected under DOTS that corresponds to the project target of 73 percent. For calculation the project used the official data presented in the WHO TB global report 2014.

Indicator 11 records the percentage of public-sector TB treatment facilities with health care professionals trained in TB case detection and treatment based on DOTS. Project trainings built the capacity of TB doctors and laboratory specialists from 48 out of 60 TB facilities in USAID-supported regions. This makes 80.0 percent of all TB facilities working in the regions and met the target of 80% for the current year.

Indicator 12, In Year 3, 719 health care workers successfully completed an in-service training program. STbCU continue focusing in Year 3 on training medical professionals working in PHC facilities and laboratory technicians who perform sputum smear microscopy (see Exhibit A-7).

The largest number of training sessions per region was held in Dnipropetrovsk oblast at the Dnipropetrovsk Center of Excellence (CoE), with 23 training events for 412 specialists from all USAID-supported regions (see Exhibit A-8).

Exhibit A-7. Number of Trained Specialists by Specialty and Work Venue

Specialty	Region										Total
	Dnipropetrovsk	Donetsk	Zaporizhzhia	Kirovograd	Kyiv	Luhansk	Lviv	Odesa	Kharkiv	Kherson	
PHC doctors	14		20	68	81		65	30	26	28	332
TB specialists (doctors and nurses)	26		21	30			73	17	23	22	212
Laboratory specialists	20		8	25	5		25	8	9	9	109
Specialists of SES	1		2	3	2	3	6	3	4	2	26
Professors of medical universities*							3				3
NGO Representatives	8	3	6	2	12		6	14	3	6	60
Medical statisticians	1		1						4		6
Total	**70**	**3**	**58**	**128**	**100**	**3**	**178**	**72**	**69**	**67**	**748**

Exhibit A-8. Training Activities by Location

Name of training	Place of training	Number of trainings	Number of trainees
TB case management in PHC facilities for physicians	Kyiv, P.L. Shupik National Medical Academy of Postgraduate Education	6	116
TB case management in PHC facilities for physicians	Dnipropetrovsk CoE	5	103
	Odesa	1	22
TB case management in PHC facilities for nurses	Dnipropetrovsk CoE	3	66
TB case management in PHC facilities (TOT)	Dnipropetrovsk CoE	4	41
TB detection and diagnostics by sputum smear microscopy. Quality assurance of tests	Dnipropetrovsk CoE	4	59
TB bacteriological diagnostics using solid media. Quality control of bacteriological tests	Kyiv	2	20
Monitoring and evaluation of TB diagnostics and treatment indictors using cohort analysis	Dnipropetrovsk CoE	3	61
MDR-TB case management	Dnipropetrovsk CoE	4	82
Counseling patients and testing for HIV-infection on the initiative of health care workers in TB service and effective redirection	Lviv	2	48
Implementation of TB IC measures among representatives of NGOs	Kyiv	3	60
Implementation of TB IC measures in TB laboratories for the laboratory specialists	Kharkiv	1	20
Implementation of TB IC measures in TB laboratories for the specialists of SES	Kyiv	1	20
Implementation of TB IC measures in medical facilities of Ukraine for teams of specialists	Kyiv	1	20
Use of Microsoft Excel in the work of laboratory specialists	Kyiv	1	10
Total number of trainings and trained specialists		**41**	**748**

Indicator 13 records the percentage of Ukrainians with access to DOTS services that meet international standards. In 2014, DOTS coverage was at 48.3 percent (without Donetsk and Luhansk oblasts). This is slightly below the target of 52 percent.

PIR 2. Creating a safer medical environment at the national level and in USAID-supported areas

Indicator 14 records the incidence rate of TB among health care workers (HCW).
The incidence rate of TB among health care workers in 2014 significantly decreased against the rate in 2013 and made 5.3 per 10,000 and met the target of 5.5 per 10,000 HCW.

Exhibit A-9. Incidence rate of TB among HCW in 2012, 2013 and 2014

Region	Incidence rate of TB among HCW in 2012	Incidence rate of TB among HCW in 2013	Incidence rate of TB among HCW in 2014
Dnipropetrovsk *oblast*	7.9	10.0	10.0
Kirovograd oblast			8.0
Kharkiv *oblast*	7.3	4.1	3.3
Kherson *oblast*	14.6	10.1	3.9
Lviv oblast			4.5
Odesa *oblast*	8.3	5.9	6.2
Zaporizhzhia *oblast*	7.1	6.3	5.7
Kyiv	3.8	4.2	4.9
USAID-supported regions	7.2	6.8	5.3

Indicator 15 records the number of facilities with proper infection control practices in place. During the reporting period 25 healthcare facilities developed IC plans and started implementing proper IC practices, which 3 makes in total 80 facilities with proper IC practices in place by the end of Year.

1. Dnipropetrovsk TB dispensary (policlinic department)
2. Kharkiv oblast TB dispensary # 1, MDR-TB Department and bacterial laboratory
3. Tokmak TB dispensary
4. Zaporizhzhia TB dispensary # 1
5. Zaporizhzhia TB dispensary # 4
6. Zaporizhzhia TB dispensary # 3
7. Rozivka central raion hospital, PHC Center
8. Kuibysheve central raion hospital, PHC Center
9. Odesa Oblast AIDS Center (in-patient department)
10. Izmail TB hospital
11. Belhorod-Dnistrovskyi clinical hospital
12. Kirovohrad Oblast AIDS Center
13. Kirovohrad oblast TB dispensary
14. Kirovohrad oblast TB hospital
15. Oleksandriia TB dispensary
16. Kirovohrad PHC Center # 7
17. Lviv Regional TB and Pulmonology diagnostic and treatment center
18. Lviv TB dispensary, TB Department # 2
19. Sokal central raion hospital
20. Drohobych TB dispensary
21. Lviv Oblast infectious disease hospital

22. Lviv Oblast AIDS Center
23. – 25 . Lviv Municipal TB dispensary (**3 sites**)

Indicator 16 records the proportion of health care workers that are knowledgeable on proper infection control practices, which during the reporting period was 87.7 percent.

I In 2015 STbCU applied a new methodology to test the level of knowledge on IC among healthcare workers in USAID-supported regions. This decision was made by the project team based on the following reasons:
- in Year 3 STbCU started working in two new regions and excluded AR Crimea and Sevastopol city because of the occupation, and Donetsk and Luhansk oblast due to the armed conflict, what made use of the previous study design inapplicable;
- The methodology used previously did not match the projects expectations. Previously used methodology showed sharply decreased the integrated indicator of actual level of knowledge on IC among HCW in 2014 (3.2% vs. 30% of the target for Year 2). At the same time, the analysis of the interviewees level of knowledge per each separate question in 2014 was higher or equal (within statistical bias) to the level of knowledge in 2013. The reason for the fall in this indicator in 2014 was most likely due to the fact, that it had been calculated not assessing the proportion of people, who had high level of IC knowledge, but as a gradual addition of the correct answer to each subsequent question and looking on the proportion of people, who had correct answers to the same questions.

In 2015 STbCU developed an online questionnaire that consists of 10 questions on IC. Questions were the same as in 2012 and 2013.

A total of 313 HCW from 8 regions participated in the online survey, which is almost the same as in 2013.The number of participants from each region is presented in the table (see Exhibit A-10). Among tested participants 220 people (70.3 percent) were HCW from regional TB Facilities, 13 people (4.2 percent) from regional AIDS Center, and 80 people (25.5 percent) from other medical facilities.

Exhibit A-10. Number of IC knowledge survey participants per region

Region	Number of responders	Proportion from the total (percent)
Dnipropetrovsk *oblast*	76	24.3
Kirovograd oblast	23	7.3
Kharkiv *oblast*	32	10.2
Kherson *oblast*	39	12.5
Lviv oblast	12	3.8
Odesa *oblast*	71	22.7
Zaporizhzhia *oblast*	41	13.1
Kyiv	19	6.1
Total	313	100.0

The level of knowledge was considered sufficient if participants answered correctly on 7 or more questions – not less than 70% of correct answers. The average level of knowledge was 87.8 percent of participants. Sixty-six percent of tested HCWs

answered correctly on 9 out of 10 questions. The test results are presented in Exhibit A-11.

Exhibit A-11. Level of knowledge on IC among health workers, 2015

Region	Proportion of correct answers (percent)
Dnipropetrovsk *oblast*	87.1
Kirovograd oblast	86.1
Kharkiv *oblast*	88.4
Kherson *oblast*	88.5
Lviv oblast	66.7
Odesa *oblast*	87.3
Zaporizhzhia *oblast*	94.1
Kyiv	91.6
Total	87.8

PIR 3. Build capacity to implement PMDT programs for multidrug-resistant/extensively drug-resistant TB at the national level and in USAID-supported areas

Indicators 17-18 record MDR-TB treatment outcomes among new MDR-TB cases (cohort indicator) who received treatment in 2012-2013. As in the case of drug-susceptible TB, the rate of treatment success was high among female patients, and the difference was even more pronounced. The gender difference in the frequency of unfavorable outcomes was statistically insignificant (Exhibit A-12).

Low MDR TB treatment efficacy is the most significant issue of the Ukrainian TB control system which is repeatedly emphasized by WHO experts and STbCU technical staff as well. At the same time is USAID supported regions these results are much better, than in the rest of Ukraine (45.2% effectively treated new cases vs. the Ukrainian average of 34.8%), and approximate to the world average of 48%. Nonetheless, the treatment results of MDR TB cases worldwide and in Ukraine are insufficient. The most of reasons, sounded by WHO are relevant in Ukraine, including:

- Delayed MDR TB detection due to improper patients triage
- Improper DOT TB treatment.
- Nosocomial transmission of drug-resistance strains inside TB hospitals due to poor IC, which leads to amplification of resistance.
- Inappropriate MDR TB treatment due to lack of supply chain.

In fact, STbCU can provide only indirect impact on the first two reasons, slightly mitigate the third one, and has no leverages for the forth reason

Exhibit A-12 . MDR TB Treatment Outcomes in USAID-supported oblasts (cohort 2012)

Region	Treatment Success (Percent)	Death in Cohort (Percent)	Failure (Percent)	Lost to follow up (Percent)
Dnipropetrovsk oblast	41.6	22.5	12.4	17.2
Kharkiv oblast	43.8	27.2	13.6	10.3
Kherson oblast	38.5	30.8	17.9	5.1
Odesa oblast	64.9	19.4	3.0	10.4
Zaporizhzhia oblast	54.1	19.4	3.0	13.1
Kyiv city	31.1	18.5	6.7	34.5
USAID-supported	**45.2**	**20.0**	**10.0**	**16.8**

Exhibit A-13. MDR TB Treatment Outcomes Disaggregated by Gender and Oblast

Region	Treatment Success (Percent)		Death in Cohort (Percent)		Failure (Percent)		Lost to Follow Up (Percent)	
	M	F	M	F	M	F	M	F
Dnipropetrovsk oblast	37.0	57.8	23.8	17.8	14.0	6.7	18.9	11.1
Kharkiv oblast	41.1	50.0	29.6	21.3	11.2	19.4	10.8	9.3
Kherson oblast	38.9	36.8	29.6	21.3	11.2	19.4	10.8	9.3
Odesa oblast	63.4	66.6	22.5	15.9	2.8	3.2	9.9	11.1
Zaporizhzhia oblast	56.1	50.0	17.1	25.0	7.3	0.0	12.2	15.0
Kyiv city	50.0	62.5	0.0	0.0	16.7	0.0	33.3	37.5
USAID supported	**43.5**	**54.5**	**26.2**	**20.8**	**11.3**	**11.8**	**12.6**	**9.8**

Indicator 19 records the percentage of Level 3 laboratories in the targeted regions performing quality assured culture and DST came to 89 percent (8 out of 9 laboratories) against the target of 87.0 percent. One Level 3 laboratory in Kirovograd oblast did not yet participate in EQA by the time of reporting.

Indicator 20 records the percentage of health facilities with proper MDR-TB management. To evaluate the quality of MDR-TB case management, the project assessed the work of MDR-TB councils in each USAID-supported region. The MDR-TB council is an *oblast*-level consultative board of specialists who are responsible for setting the diagnosis of MDR-TB, prescription of treatment, monitoring drugs stock-outs, and supervising doctors regarding treatment monitoring, side effects management, and registration. Although MDR TB councils are mentioned in Ukrainian regulations as being responsible for MDR-TB diagnostics and treatment, there is no national legislation specifying the functions of the councils in implementation and monitoring of proper MDR-TB case management. Therefore, the project considered case management in the regional TB facilities to be proper if at least three of four criteria were met by the local council (see exhibit A-14).
According to this criteria all facilities operated properly, which makes 100 percent.

Exhibit A-14. Quality of MDR-council operation

Region	Proper registration and timely treatment provision (within seven days after obtaining DST results)	Compliance of treatment regimens with national and international protocols	Compliance with local second-line drug stock-outs	Proper treatment monitoring	Conclusion
Dnipropetrovsk oblast	yes	yes	no	yes	Proper management
Kirovograd oblast	yes	yes	yes	no	Proper management
Kharkiv oblast	yes	yes	no	yes	Proper management
Kherson oblast	yes	yes	yes	yes	Proper management
Lviv oblast	yes	yes	no	yes	Proper

					management
Odesa oblast	yes	yes	yes	yes	Proper management
Zaporizhzhia oblast	yes	yes	no	yes	Proper management
City of Kyiv	yes	yes	yes	yes	Proper management

Indicator 21 records the percentage of Ukrainians in USAID-assisted areas with access to PMDT that meets WHO international standards. In 2014, PMTD coverage in Ukraine was at 48.3 percent (without Donetsk and Luhansk oblasts). This is slightly below the target of 52 percent.

Indicator 22 records the percentage of TB patients who had an HIV test result recorded in the TB register among the total number of registered TB patients in USAID-supported sites in 2014. Against a target of 90.0 percent, the project recorded a result of 97 percent. The disaggregation by region is presented in Exhibit A-15.

Exhibit A-15. Percentage of TB Patients who Had an HIV Test Result Recorded, 2014

Region	All new TB cases	Cases in which the results of HIV testing were registered	Percentage of cases in which the results of HIV testing were registered
Dnipropetrovsk oblast	2,736	2,667	97.5
Kirovograd oblast	802	792	98.8
Kharkiv oblast	1,227	1,217	99.2
Kherson oblast	996	978	98.2
Lviv oblast	1,601	1,565	97.8
Odesa oblast	2,303	2,302	100.0
Zaporizhzhia oblast	1,049	1,066	101.6
Kyiv	1,270	1,230	96.9
USAID-supported regions	26,610	25,806	97.0

Indicator 23 records the proportion of newly diagnosed HIV and TB individuals who undergo diagnostic and counseling services for dual infection in USAID-supported sites, which came to 96.0 percent against the 90.0 percent target rate. During 2014, 25,806 of 26,610 newly diagnosed TB patients were covered by HIV testing and counseling, and 10,276 of 10,817 newly diagnosed HIV patients were tested for TB and HIV.

Indicator 24 records the proportion of TB patients who are counseled and tested for HIV at USAID assisted sites. Please see the explanation of Indicator 22.

Indicators 25-29 per discussion with USAID PEPFAR coordinator are not to be reported by the project.

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ВІД АМЕРИКАНСЬКОГО НАРОДУ

Посилення контролю за туберкульозом в Україні

Through Joint Efforts, Raion Community Is Uniting Against Tuberculosis

The incidence of tuberculosis (TB) in the Hola Prystan Raion of Kherson Oblast is significantly higher than the average. This raion is unique in that it has two TB facilities, and provides a home to a large number of seasonal farm workers and prisoners from surrounding oblasts, who settle in Hola Prystan after their release. These groups are less likely to seek medical care, even if they have active tuberculosis. In these cases, physicians detect TB incidentally, through reports on new residents or when a person's health status worsens so much that he cannot manage without outside assistance.

The USAID Strengthening Tuberculosis Control in Ukraine (STbCU) project has provided trainings and mentoring assistance for healthcare workers of the Hola Prystan Raion, to help them implement new approaches to TB detection, treatment, and prevention. Local physicians and laboratory technicians completed a series of trainings on TB diagnostics, TB case management in primary healthcare facilities, treatment of resistant forms of TB, and the development of local TB protocols.

Photo: USAID Strengthening TB Control in Ukraine project

DCOP/Medical Director of the USAID STbCU project hands a letter of gratitude to Dr. Leonid Brytvin, Chief Physician of the Central Raion Hospital of Hola Prystan.

The raion community makes every effort to respond to the challenges connected with TB. The raion state administration annually allocates special-purpose funds from the raion budget to implement the raion TB program, arranges trainings on TB for heads of rural councils, and conducts awareness campaigns. In order to improve TB detection among risk groups, the raion hospital collaborates with the Raion Employment Center, the Pension Fund Department, the Social Protection Department, the Raion Department of Internal Affairs, and the Criminal-Executive Inspection.

Dr. Leonid Brytvin, Chief Physician of the Central Raion Hospital, is one of the main leaders in uniting efforts against TB. On his initiative, a TB commission operates within the hospital. At its monthly meetings, commission members develop measures to improve TB work in the raion, and also consider cases of neglected forms of TB. At the discretion of Dr. Brytvin, Hola Prystan Raion is one of the first in the oblast to set up computers and connect to the National TB Registry.

Dr. Brytvin says, "Today, they say everywhere that TB can be overcome only by the joint efforts of concerned people. We do what we can. We are looking for best practices, trying to bring them to us. We have already managed to achieve something; however, there is still a lot of work ahead of us. Nevertheless, we believe that we will succeed. We do not stop."

USAID makes a difference in laboratory testing

99.7% laboratories in the Project-supported regions underwent external quality assurance of laboratory testing

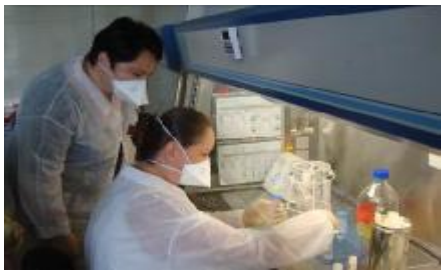

Photo: USAID Strengthening TB Control in Ukraine Project

Head of MOH Central Reference Laboratory Anna Barbova supervises a laboratory specialist

"In 2013 we took a big step towards ensuring quality laboratory testing in Ukraine: at the national level and under the supervision of the MOH Central Reference Laboratory, we developed a national Protocol on external quality assurance for TB diagnostics for all TB network laboratories.

Anna Barbova,
Head of Ukraine's Health Ministry Central Reference Laboratory

Quality laboratory diagnostics are essential to ensuring correct tuberculosis (TB) diagnosis and treatment. To ensure quality diagnosis, the World Health Organization (WHO) recommends that all laboratories undergo external quality assurance (EQA).

In 2013, 340 USAID-supported TB laboratories in Ukraine underwent this rigorous third-party review, with an impressive 300 (88 percent) reporting zero errors.

"The USAID-supported regions have been the most successful in implementing EQA procedures. They've accumulated significant experience, which will be used during TB laboratory testing all over Ukraine," said Anna Barbova, head of Ukraine's Health Ministry Central Reference Laboratory.

The USAID-supported regions started implementing a smear microscopy EQA in 2006. In 2013, USAID Strengthening Tuberculosis Control in Ukraine Project (STbCU) assistance and Ministry of Health (MOH) Central Reference Laboratory supervision, 339 out of 340 Level 1 laboratories followed EQA procedures. The majority of these labs used a combination of two WHO recommended EQA methods: panel testing and blinded rechecking.

It should be noted that implementing EQA using two methods complicates the task for laboratories because the dual process requires significant laboratory experience and attention to detail.

Natalia Riabchenko, Head of Luhansk Level 3 Laboratory explained that, "In 2013, all PHC laboratories in Luhansk oblast underwent EQA. With USAID support, we managed to develop high quality tasks, organize regular mentoring visits to the supervised laboratories, and eliminate common mistakes in smear microscopy testing. I learned how to use rapid and effective methods of laboratory data processing."

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Laboratory Technician Initiates Quality Improvement for Tuberculosis Diagnostics in Her Raion

Photo: Olena Pavlenko, Laboratory Technician who managed to organize an efficient interaction of physicians, laboratory technicians and patients for collecting better quality diagnostic material for TB diagnostics

Photo by: Oksana Smetanina, USAID Strengthening Tuberculosis Control in Ukraine Project

"Solving such problem as poor quality of diagnostic material exceeds the ability of a laboratory assistant alone. We succeeded only through understanding and active participation of physicians and nurses in our raion."

Olena Pavlenko, Medical Laboratory Technician at Central Raion Hospital in Hola Prystan, Hola Prystan Raion, Kherson Oblast

The quality of a diagnostic material is a crucial factor for conducting high quality bacteriological test for TB. The most common problem is the wrong collection of a material for analyzing, when instead of sputum a laboratory gets saliva – a substance that is fundamentally different by the probability of M.tuberculosis detection. Even perfectly operating laboratory cannot compensate poor quality of a diagnostic material.

Laboratories in Ukraine reject up to 30% of biological materials received for tuberculosis (TB) diagnostics because of the poor quality of these materials. Olena Pavlenko, a Laboratory Technician from the Central Raion Hospital in Hola Prystan, Hola Prystan Raion, Kherson Oblast, constantly faced this problem as well. The laboratory had to dispose materials of poor quality, all efforts spent on work with patients were in vain, and making patients to undergo medical tests again required considerable extra efforts.

In 2013, Olena participated in a training "TB Detection and Diagnostics through Sputum Smear Microscopy. Research Quality Control" organized for laboratory specialists from eight regions of Ukraine by the USAID Strengthening Tuberculosis Control in Ukraine Project. The Project suggested several solutions to the problem of poor quality materials and encouraged the participants to take the courage and responsibility, and organize the collection of better quality diagnostic material in their native medical facilities.

Right after coming back from this training, Olena, who is the leader by her nature, got down to business. First, she shared this newly acquired knowledge with her colleagues – senior and junior laboratory staff. Her second step was to develop and implement the guidelines for improving quality of TB diagnosis through sputum smear microscopy in her raion. The guidelines determine the rules for accepting biological material going to the laboratory, define the situations when a laboratory should not accept diagnostic material, and describe staff members actions in case of damaged containers.

Olena initiated enhancing cooperation between medical staff members of primary health care facilities, outpatient clinics, and TB doctor's office: they had joint trainings, where each participant received Olena's guidelines.

As a result of Olena's leadership, the laboratory receives only good quality biological material, while before her participation in the USAID training up to 10% of material coming to the lab contained saliva. Thanks to the measures taken by Olena, TB detection in sputum also improved at their laboratory: from 5.2% in 2012 up to 9% in 2014.

“My colleagues and I, we were very annoyed with the poor quality of material which we received for diagnosis, – says Olena. – We had to do something with this; we considered various options... Right at that time USAID announced the training. It was exactly what we needed! It turned out that we were not the only ones who scratched our heads about how to improve the quality of material, and there are proven methods to make this system work! We just had to implement the recommendations, and it had an immediate positive result.”

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Iryna recovered from TB and saved her marriage thanks to the support of her patronage nurse

In February 2014, the USAID Project issued a grant to the Ukrainian Red Cross Society to supervise TB treatment of people in difficult life circumstances.

Courtesy: Ukrainian Red Cross Society

Always smiling and friendly, the patronage nurse is there for her patients every day to bring a dose of hope and essential TB-drugs. Many clients request that they meet with the patronage nurse away from their homes, so that neighbors do not find out about their disease.

During the first six months of the grant activities, 96 patients who otherwise would have probably refused treatment, fully completed the course prescribed by their doctors and recovered from TB. During the three-year grant program, 1000 patients in difficult life circumstances and high risk of being lost to follow-up, will receive the full course of TB treatment.

Iryna* learned that she had TB when she was pregnant and got registered in the antenatal clinic. Having two kids, Iryna and her husband were eagerly waiting to meet their third child.

When Iryna's mother learned about the disease, there was a big scandal in the family. After a long quarrel, Iryna's mother-in-law took the kids. Tuberculosis is considered to be a disease of the poor, and Iryna's relatives blamed her for not protecting her own health, and putting at risk the health and good name of the whole family. Iryna was also very afraid of publicity, because the family lives in a small town, and neighbors would not give her peace if they learned about her diagnosis. She was on the verge of a nervous breakdown, and was ready to die quietly from tuberculosis rather than visit a hospital every day and raise doubts among suspicious neighbors.

In view of difficult life circumstances and high risk of treatment failure, the doctor suggested Iryna to receive TB treatment under the supervision of the Red Cross patronage nurse. The USAID awarded a grant to the organization to perform such supervision. With USAID support, the patronage nurses visit TB patients every day to bring them TB drugs, track their health status, offer advice and help to recover. During the first six months of the grant activities, 96 patients who otherwise would have probably refused treatment, as Irina, fully completed the administered course of TB treatment.

'Iryna was difficult to talk to,' the nurse says. 'She was exhausted, nervous, totally disappointed in people.'

The efforts and strong commitment of the patronage nurse and psychologist of Oblast TB facility helped to gradually overcome Iryna's depression. They helped to improve her relations in the family, on their advice Iryna with her husband and their children rented a separate apartment to be less influenced by their parents, as a result, the family became more united.

'On September 29, my six month treatment was over,' Iryna says happily. 'I am very grateful to USAID for the support, and want to thank all people who helped me all the way through. Thanks to this support our family stood up together against the disease. We fought off TB together!'

*As requested by our client, her name in this story was changed. Iryna also refused sharing her picture for our success story.

Unable to walk, Natalia received full TB treatment at home

In February 2014, the USAID Project issued a grant to the Ukrainian Red Cross Society to supervise TB treatment of people in difficult life circumstances.

Courtesy: Ukrainian Red Cross

Photo: visiting nurse helped Natalia to complete the course of TB treatment

From March to October 2014, 96 patients successfully completed TB treatment. Over the course of three years, 1000 people in difficult circumstances with a high risk of treatment failure, will complete a full course of TB treatment.

In spring Natalia* was diagnosed with tuberculosis (TB). TB treatment usually lasts at least six months, during which a patient must visit a "DOT-site" daily to take TB drugs under direct supervision of a healthcare worker. However, this was not an option for Natalia, who lost her ability to walk because after a femoral neck fracture.

In February 2014, the USAID Strengthening Tuberculosis Control in Ukraine Project issued a grant to the Ukrainian Red Cross Society to supervise TB treatment of people in difficult life circumstances. Natalia became one of the first clients who received help through such cooperation. Every day a visiting nurse brought TB drugs to Natalia's home, observed their intake, encouraged Natalia, and advised about further treatment. Using an innovative USAID-developed 'Patient's Diary', the nurse helped Natalia track changes in her health status, record test results, and plan doctor's appointments. This support helped Natalia develop treatment adherence and complete the full course of TB treatment.

Natalia started feeling better gaining back weight, and became more psychologically balanced and self-confident. Her nurse also helped her in applying for social benefits related to her disability.

'The nurse not only brought me TB drugs,' Natalia said. 'She talked to me, supported me and gave many practical and valuable advice. Of course, my leg problems still remained, but with the nurse's help I managed to get rid of a more serious disease. We have cured tuberculosis together.'

*As requested by our client, her name in this story was changed.

Ukraine Brings TB Treatment to Patients' Homes

Visiting nurses ensure patients take medication

A nurse consults with a client using a "patient's diary," a booklet developed by USAID that tracks TB treatment progress.

USAID Strengthening TB Control in Ukraine project allows patients to take daily medication under the direct supervision of a nurse, in a place convenient for them.

Jan. 2015—When Iryna* enrolled with an unemployment agency in Ukraine, a routine TB screening detected the infection. Iryna believes she contracted TB in 2012 when she worked as an agricultural worker in Kherson alongside a coworker who was diagnosed with the disease.

"When I became ill with TB and was admitted to the hospital, not only my neighbors, but even people in the adjacent district learned about it. Their initial reaction was quite negative. They even forbade my kids to play with their children. It caused me so much pain," explained the mother of four. "You can imagine how difficult it was to explain to my kids why the other children will not play with them!"

The incidence of TB in Ukraine's general population is currently estimated to be over 100 cases per 100,000 people, according to the World Health Organization. A study conducted from September 2011 to March 2012 shows that Ukrainians' attitudes toward people with TB (and toward those who have had it but completely recovered) is mixed. On one hand, 92 percent of respondents think that such people should get support and a friendly attitude from other people. On the other hand, things change when the situation affects them personally. For example, only 45 percent of respondents said they would not be reluctant to work alongside such a person. Only 33 percent would agree to eat at a restaurant if they knew that one of the cooks or waitresses has had TB and completely recovered.

In May 2014, Iryna became one of the first patients in a joint program launched by USAID and the Ukrainian Red Cross Society to support patients diagnosed with TB in overcoming obstacles to treatment.

The program enabled Iryna to forego daily visits to a treatment center by having a visiting nurse come directly to her. "Now the situation is a bit better. I am very grateful to the program for the opportunity to be treated close to my home so that I do not leave my children unattended for long," Iryna said.

Maria Stryzhak, the visiting nurse assisting Iryna, supervises her treatment and makes sure she takes her medication daily, which is critical in treating TB. Because Iryna has been unemployed since her diagnosis 18 months ago, she also receives food packages courtesy of the program.

"What I really like about the program is that it allows patients to take daily medication under the direct supervision of a nurse, in a place convenient for them," said Stryzhak. "It helps them spend

less time on treatment and maintains confidentiality. I know from my own experience that quite often you are just too busy with something and forget to take pills. However, the key to successful TB treatment is regular intake of medication over a long period of time."

Even though she is no longer contagious, Iryna is challenged finding a job because occupational health examinations are prerequisites for employment and stigma against TB often leads employers to refuse TB-positive applicants, including those in remission.

"Thanks to the support program and my visiting nurse, I can now stay in treatment as long as I need to get cured of TB," Iryna said.

The USAID Strengthening TB Control in Ukraine project is designed to decrease TB morbidity and mortality, and represents successful cross-sectorial cooperation between the health care and social services systems and the local oblast government. The project runs from April 2012 to April 2017.

*Full name withheld to protect identity.

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With Social and Medical Support, Patients Receive the Care They Need to Recover from Tuberculosis

"We are not just nurses, but also guardians," says Nadiya Oleksandrivna Korchevska, a Red Cross patronage nurse who provides social support and medical care

Photo: USAID Strengthening TB Control in Ukraine project

Since January 2014 the USAID Strengthening Tuberculosis Control in Ukraine (STbCU) project has helped over 500 TB patients who otherwise may refuse taking TB drugs, to completed a full course of their TB treatment. One current beneficiary of project activities is Lena*, who was born in 1994 into challenging personal circumstances. When Lena was diagnosed with tuberculosis (TB), a healthcare worker from the local TB dispensary identified her as a patient at high risk of dropping out of treatment since the alcohol-dependent parents could not even cover her fare to TB dispensary. The healthcare worker asked the Red Cross to enroll Lena in the USAID-supported program, to ensure she received the care she needed.

The objective of this program is to help people in difficult situations undertake and complete TB treatment. Program participants receive the support of patronage nurses, who visit their patients regularly to bring them TB drugs, track their health status, offer advice, and supervise their recovery. Lena was considered eligible and was enrolled in the program. She immediately started her treatment with the support of her Red Cross patronage nurse, Nadiya Oleksandrivna Korchevska. The nurse used to daily visit Lena's home, supervises her treatment and makes sure she takes her medication daily, which is critical in treating TB.

One day, Nadiya Oleksandrivna went to visit Lena, but did not find her at home. After a fight with her mother, Lena had run away. The nurse did not leave until she found out where Lena was. Nadiya Oleksandrivna asked neighbors and learned that Lena stayed with a large family in an adjacent district. Since then, Lena has changed residences several times, but her nurse has followed her everywhere and made sure that she did not miss doses in her treatment schedule.

"We are not just nurses," says Nadiya Oleksandrivna, "but also guardians." In addition to bringing Lena her daily pills, Nurse Korchevska has helped Lena obtain a passport and provided her with clothing and personal hygiene sets.

Lena feels better now, both because she consistently takes her TB medicines and because she feels cared for and supported by Nadiya Oleksandrivna and those around her.

*Name changed to preserve anonymity.

DOT-based services become more accessible and convenient due to collaboration between TB facilities and businesses

The Project linked healthcare facilities and business: the factory provides water for the dispensary patients free of charge, while TB specialists counsel factory physicians on TB prevention and treatment among factory workers

Фото: В. Гультай, проект USAID

Photo: drinking water is always available in the DOT-site

"Tuberculosis one of today's challenges that we can and must take. The collaboration between TB service of the city and the USAID project enabled us to timely diagnose TB in our staff. Also, TB specialists have already made several presentations for the staff of our factory. Both we and the healthcare providers benefit of such collaboration. I feel good to realize that our company contributes to the common goal."

Oleksandr Bodriahov, Head, Factory healthcare site

With the support of the USAID Project, Obolon JSC, Ukraine's largest beverage manufacturer, and Kyiv city TB service came to partnership. Under such collaboration, the company will provide high quality potable water for the patients of DOT sites during a year, while TB specialists, in their turn, will counsel the company on TB prevention and treatment among the company staff.

The company provides water free of charge to three TB facilities in Kyiv for TB patients at the outpatient stage of treatment. These people need to show up in the DOT site daily during several month, to take their daily dose of medications under the supervision of the nurse. Often patients are unable to follow such an intensive schedule and stop their treatment too early. This is very dangerous, as incomplete TB treatment may cause the development of severe forms of TB resistant to commonly used drugs, which makes them more dangerous both for the patient and for the people around.

The availability of fresh water in a DOT-site helps the patients to feel that they are cared for and makes the procedure of taking the drugs more convenient. The support of the company gives the patients an additional stimulus to complete their challenging and long treatment, and there are grateful for caring.

"Of course, the availability of water in the DOT-site does not have a direct impact on my treatment success. However, it is so good to feel that someone cares for me trying to ensure more comfortable conditions for recovery. I need to come daily to take my medications. It is a challenge in itself, leave along the need to think about a bottle of water to bring to the site… The daily burden of treatment became a little lighter for me," – Volodymyr says. Volodymyr is a TB patient who receives his treatment in the DOT-site based in the municipal TB hospital.

Doctors in Zaporizhzhia Save Woman Co-Infected with Tuberculosis and HIV

Participation in Project training activities keeps the doctors alert towards TB and HIV.

Photo: Zaporizhzhia Oblast AIDS Center

Liudmyla was cured from TB due to the expertise of her doctors and her persistence in following through on scheduled treatments.

"Thank you for saving my life. I need to raise my son and support my mother. Now that I feel well, I plan to return to work."

Liudmyla, HIV-positive woman, a TB survivor

Liudmyla* is 43 years old and lives in Zaporizhzhia. She did not believe she was at risk for HIV, but in February 2014, she came down with a fever so bad that she called a doctor. Because a regular examination, including chest X-ray, did not show any significant pathology and two weeks of antibiotic therapy were ineffective, doctors advised Liudmyla to take an HIV test. Immediately after receiving a positive test result, Liudmyla was examined by TB and HIV specialists from the AIDS Center in Zaporizhzhia Oblast. A followup chest X-ray showed worsening pulmonary symptoms, but doctors were unsure whether her symptoms indicated tuberculosis. Doctors decided, with Liudmyla's deteriorating condition and HIV-positive status, they would administer TB treatment.

"TB specialists, as well as other specialists from the AIDS Center, had many talks with USAID 'Strengthening TB Control in Ukraine' Project specialists, participated in meetings and conferences organized by the Project, and regularly read training materials posted on the Project web-site. Now we are all aware of the evidence-based recommendation to administer TB treatment to all patients in severe conditions with signs of TB, even before the diagnosis is confirmed," – says Tetyana Bulana, TB specialist in Zaporizhzhia Oblast AIDS Center.

After two weeks of treatment, Liudmyla's condition improved, and in a month she felt healthy again. Upon completion of the TB treatment, the lesions disappeared from Liudmyla's lungs and her CD-4 levels recovered, indicating that her HIV treatment was also working.

The "Strengthening TB Control in Ukraine" Project provided doctors from Zaporizhzhia Oblast with the skills needed to treat patients suffering from TB, including those co-infected with HIV. They know which approaches are most effective in determining a diagnosis, as well as which treatment is most appropriate for each patient.

"Thank you for saving my life. I need to raise my son and support my mother. Now that I feel well, I plan to return to work," says Liudmyla.

*the name was changed for confidentiality

Prevent rather than treat: TB infection control becomes a priority in Ukraine's healthcare reform

TB infection control is an integral component of public health. This is the Ukrainian understanding of public healthcare reform

Courtesy: NGO Infection Control in Ukraine

TB infection control expert group member is checking the effectiveness of the UV lamp

"A dramatic increase in MDR-TB morbidity is a challenge for Ukraine's healthcare system. There is a vital need in reform maintaining the existing achievements and introducing new models of care. This includes, in particular, broader implementation of TB outpatient treatment with TB infection control in the existing TB facilities. About 0.5% of gross world product is spent to overcome the consequences of TB. Is Ukraine able to spend such costs to treat this disease in such challenging times? Or maybe the time has come for the politicians and health professionals to realize that prevention costs less?!", says Volodymyr Kurpita, expert-coordinator of the MOH Strategic advisory group on healthcare reform to comment on the importance of TB infection control implementation.

In 2012, the USAID "Strengthening TB control in Ukraine" Project started to support shifting from long-term hospital treatment of TB to TB prevention and outpatient treatment. The work started with establishing TB infection control expert group, together with the State Sanitary and Epidemiological service (SES). The Project trained the specialists and provided the group with modern equipment to monitor the status of infection control in healthcare settings. The group started visiting healthcare facilities in the field, giving expert support and recommendations to oblast epidemiologists.

After the official dismissal of SES, Ukraine did not lose the group expertise: with the support of the Project, they founded an NGO, established the infection control training center and actively participate in strategic work-out of Ukraine's healthcare reform.

The group's experience laid the basis for the Policy proposal "Development and reform of TB care approaches (The new system of TB care)". The group leader Viktor Liashko actively participates in development and modification of the "National strategy of establishing the new healthcare system in Ukraine for 2015 – 2025" (http://healthsag.org.ua/strategiya/). After finalization this document will become the road map for in-depth changing of the entire healthcare system in the country.

Contemporary TB infection control practices are quite an unusual activity for Ukrainian healthcare settings where old soviet healthcare traditions are still in place. Due to the active involvement of TB infection control expert group, the positive experience of the USAID project disseminates nationwide,

supporting the changes in the healthcare system and ensuring the sustainability of positive changes.

Serhiy returns to healthy life after release from prison

TB incidence among individuals who are serving their sentence in the penitentiary facilities of Ukraine is approximately four times higher than TB incidence among the general population of Ukraine.

Photo: Kharkiv Oblast Charity Fund Parus

Photo: despite all difficulties Serhiy persistently continues treatment

People who are released from correctional facilities are especially vulnerable, since they are usually socially maladjusted, do not have the support of family and friends, abuse alcohol, drugs, have problems with work and housing, and malnourished.

Olena Ovchynnykova
Kharkiv Oblast
Charity Fund Parus

“I am from Donetsk. I spent 14 years in prison. Before imprisonment, I lived a "normal" life - home, family, work. The years of imprisonment deprived me of family and health. And as a result of Russian military aggression in Donbas, I remained homeless: a shell tore into my house”, Serhiy began a story about his hardships. But it is not the end: in childhood Serhiy was diagnosed with tuberculosis, and in 2014, when Serhiy was serving his sentence in Kharkiv specialized penal colony, he had a relapse. This time, tuberculosis turned out to be resistant to first line drugs. Healthcare workers at the penal colony helped him to start TB treatment, and observed medication intake during the whole term of Serhiy’s imprisonment.

In October 2014, Serhiy was released. However, this long-awaited moment in his life concealed an insidious threat: new troubles of how to put life back on track force many released individuals to forget about their health. According to statistics, less than half of people released from prison seek continuation of TB treatment in healthcare facilities in time.

Helping newly released individuals, convincing them that even in a difficult situation they should take care of their health – is one of the objectives of cooperation between the USAID Strengthening Tuberculosis Control in Ukraine Project and Kharkiv Oblast Charity Fund Parus. In particular, with USAID support, social workers deliver lectures and provide individual counseling to clients diagnosed with TB, motivate them to start treatment, tell about specifics of the disease, and together with the client develop a plan of action for medical, social and psychological support upon release. A psychologist is also helping prisoners to put an end to their destructive behavior, and improve psychological and emotional condition. Volunteers of the organization provide after-release support to their clients: meet them at the railway station, tell about their services, accompany to TB facilities, help establish communication with a doctor, and monitor their progress at the continuation stage of treatment.

Given Serhiy’s life circumstances, the risk that he interrupts a life-saving treatment was very high. Especially, that after several months of TB treatment he felt completely healthy and was dreaming about his active life outside prison.

During individual counseling, social worker and psychologist convinced Serhiy that normal life is impossible without full completion of TB treatment course. After Serhiy’s release from prison, the volunteers met him and helped to enroll in hospital treatment in Oblast TB dispensary. While Serhiy is on treatment, the

organization’s lawyer is free of charge helping to him formalize IDP status.

“Now I feel completely healthy. But thanks to information that I received, I also know that until the whole course of treatment is completed, this feeling can be deceptive. Although MDR TB treatment is very hard, in my situation it is extremely important to complete it. Only in this case, there is a hope that the disease will really be conquered”, Serhiy said.

Vadim cured from TB and is now helping others to recover

To improve knowledge about TB among prisoners and promote TB detection and treatment, USAID supported creation of a volunteer movement on a 'peer-to-peer' basis in Kharkiv penitentiary facilities. During interactive sessions, prisoners learn important information about TB, and disseminate the acquired among their peers.

Courtesy: Kharkiv NGO Parus

After recovering from TB, Vadim knows how important it is to have accurate information and be supported by others. Now, he can also help and advice his peers.

As volunteer movement in prisons gains momentum, in two months, a total of 103 prisoners participated in interactive sessions for volunteers

Vadim got infected with TB in prison, where he received appropriate treatment. Now, with a smile on his face, Vadym explains how many unjustified fears and negative emotions he experienced when learned about his diagnosis. Though prisoners are one of the most at risk groups for TB in Ukraine, they know very little about the disease and hand down myths and false beliefs about incurability of this disease. Due to such false beliefs about TB, prisoners often refuse TB treatment, which in turn only exacerbates the disease, bringing in discomfort and psychological difficulties associated with prolonged recovery.

In order to improve knowledge about TB among prisoners, and promote TB detection and treatment, USAID supported creation of a volunteer movement on a 'peer-to-peer' basis in Kharkiv penitentiary facilities. With USAID support, NGO Parus conducted a series of interactive sessions for client-leaders from among prisoners. After such interactive sessions the most active participants volunteer to continue such education, and in future they will help others as volunteers. Vadim became one of such volunteers.

"We all believe we are experts in TB and HIV, but it turned out that there are plenty of things to learn. The classes revealed many "horror stories" that the prisoners keep telling to scare each other preventing to turn and face the disease, - Vadim says. – However, besides the new information on TB, it was important for me to discuss why we have to live on and take the treatment, what can happen if you stop taking medication, as well as the pros and cons of HIV testing. The tea and cookies added some good feelings. Everyone needs support and understanding".

After the classes Vadim retells his peers all the important issues he learned in the training from the trainers.

"Sometimes after a particularly vivid discussion you keep thinking about it for a long time, - Vadim shares his impressions. – I learn in the training, and after class I teach my peers and prompt my friends to talk on interesting topics we discussed in class. Participating in the program helped me to find out the truth about TB and look at life from a different prospective. I am happy to be able to help other guys, too."

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FROM THE AMERICAN PEOPLE

STRENGTHENING TUBERCULOSIS CONTROL IN UKRAINE PROJECT

Graduate of USAID-Supported Volunteers' School Educates Peers on TB and HIV Diagnosis and Treatment

Photo: Kharkiv Oblast Charitable Foundation "Parus"

Hanna volunteers as a peer-to-peer counselor, advising former prisoners to undergo TB and HIV diagnosis and treatment

Forty-three-year-old Hanna*, a former injection drug user and person living with HIV, was diagnosed with tuberculosis (TB) in 2008. When she was arrested in 2009, she had already undergone three months of TB treatment at a hospital, and was sent to the specialized TB Penal Colony No. 63 in Ternopil to serve her sentence. After recovery, she moved to the Kachanivka Female Penal Colony No. 54 in Kharkiv Oblast.

With support from the USAID Strengthening Tuberculosis Control in Ukraine project, Kachanivka is one of many Kharkiv penitentiary facilities that provide interactive training sessions on TB/HIV co-infection prevention and treatment. Hanna not only participated in these information sessions, but also expressed a desire to continue her studies at the project-supported Volunteers' School. She completed her courses, received certification, and became a peer-to-peer counselor on TB and HIV.

After being released, Hanna decided not to return to her home city, and stayed in Kharkiv. Sometime later, she came to the office of the USAID-supported NGO "Parus," which offers a range of services to support HIV-positive people in Kharkiv penitentiary facilities. Hanna stayed there and began work as a volunteer.

"In our experience, HIV-related stigma in female penal colonies is much higher compared to male penitentiary facilities. Women are afraid to talk about their status, [and] our work is much harder. However, Hanna went through it and did not stop. She is very persistent," said Tatiana, a representative from the NGO "Parus."

As part of her work, Hanna re-connected with people whom she met in the penal colony. She meets with them, talks to them, and convinces them to undergo TB and HIV diagnosis and to start re-building their lives with a focus on healthy bodies and positive goals. Within two months of her volunteer work, three people started treatment with Hanna's help.

Hanna says, "I think that even if the past was not perfect, it makes sense to fight for your future. My sobriety and seminars organized by USAID in the penal colony helped me to reflect on my life and, foremost, to take care of my health. I managed to overcome tuberculosis, I undergo antiretroviral therapy, and I know what I want from my tomorrow.

I do not hide anything; I do not soften the truth. I talk honestly about my own life, and say that the future is worth taking your health seriously. Thanks to the USAID-organized Volunteers' School, I gained experience in consulting in a penal colony, as well as enough knowledge and a strong desire to help others and make my life purposeful." During two months of Hanna's volunteering, three people started their treatment with her help.

** Full name withheld for privacy reasons.*